The WIRELESS PATROL AT CAMP BRADY

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The Wireless Patrol at Camp Brady

By
LEWIS E. THEISS

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THE WIRELESS PATROL AT CAMP BRADY

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This book is dedicated to

Nelson Kimball Wilde

and other boys of the great wireless patrol of American amateur operators who broken-heartedly but loyally dismantled their radio outfits at the order of government, and helpfully turned their abilities into other channels when America joined in the struggle to "make the world safe for democracy"

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The Wireless Patrol at Camp Brady

CHAPTER I

HENRY PREPARES A SURPRISE

HENRY HARPER sat before a bench in the workshop in his father's back yard, comparing a pasteboard cylinder that he held in his hand with a pattern on a blue-print spread out on the bench. His eyes traveled from cylinder to pattern and from pattern to cylinder, and he frowned.

"I wonder where this end goes," he muttered to himself, picking up the end of a coil of wire which he was evidently about to wrap around the pasteboard cylinder. Again he studied the diagram before him. Then his face lightened. "I've got it," he said, and adjusting the loose end, he began to wind the wire about the paper form. Slowly, carefully, with remarkable patience, he wound the wire round and round, until the cylinder was transformed from dull gray to

shining copper. Then he fastened the other end of the wire, after consulting his blue-print, and held up his wire-wound cylinder for inspection. A machine could not have put the wire on more evenly. Each loop fitted snugly against its neighbor. There was not the slightest irregularity in the winding. The work was as well done as any one could have done it.

But that was characteristic of everything Henry Harper did. For although he was barely seventeen years of age, he was unusually trustworthy and thorough in all that he attempted. That was why he had been chosen as lieutenant by the leaders of the camp at Fort Brady, where he had spent the earlier part of the summer. And that was why it was that Henry, instead of his camp tent mate, Lem Haskins, was now making a "loose coupler" or receiving transformer for the wireless outfit the two boys had decided to construct. For Lem, until he had undergone a great change in character during his stay at Camp Brady, in consequence of a terrible accident, had been just the opposite of Henry in many of his characteristics.

Now Henry, after satisfying himself that the work was perfect, picked up a bottle of shellac, shook it, and applied a coating to the wire he had just finished wrapping about the cylinder. Then he stood the

cylinder on end to dry, while he began to wrap a second cylinder, similar to the first but smaller in diameter, with silk-covered wire.

Presently he paused in his work and listened. A step sounded on the walk leading to the workshop. Henry waited a second, then called out, "I'm hard at it, Lem."

"Bully for you!" came the response, and a second later Henry's old tent mate stepped through the door.

"Say! That's a dandy!" he cried out, as he caught sight of the shining primary coil standing on end.

"Careful there," called Henry, as Lem sprang forward to examine the cylinder. "That's just been shellacked. Keep your fingers off the wire."

Lem picked the coil up gingerly, and critically examined it. "Gee! But you've made a fine job," he said.

Henry did not reply to the comment, but a flash of light in his eyes showed that he was pleased.

"Get busy on the wooden ends for that cylinder," he said, after Lem had put the coil back on the bench. "Here are the patterns," and he drew some blue-prints from a drawer and spread them on the bench.

Lem studied the patterns a moment, then took some

wood and with a pencil outlined the parts to be cut out. He had just finished sawing out the rectangular base when a step sounded in the doorway of the building, and a cheery voice called out, "Hello, Henry!"

"Get that stuff out of sight, quick," whispered Henry, slipping the cylinder he was winding into the open drawer of the bench. Lem seized the other cylinder and the blue-prints and whisked them into the drawer also. But he was not quick enough, for a bright-faced boy bounded into the room, then stood stock-still in astonishment.

"Say! What are you fellows up to, anyway?" he asked.

"Nothing," said Henry, closing the partly-shut drawer.

"You are up to something," was the quick reply, "and I am going to find out what it is." And before Henry could say a word, the lad whipped open the drawer and peered inside.

"Oh, gee! Wireless!" he cried in delight.

"Now you've gone and spoiled the whole thing, Roy Mercer, by sticking your nose in where you weren't wanted," said Lem half petulantly.

"And you're a nice one for not sharing the fun with the crowd," retorted Roy. "Just back from camp,

where you had the best time you ever had in your life, with the finest crowd of fellows in the world, and now you sneak off and make a wireless so as to have all the fun yourselves. You're a nice pair!"

Some one had once likened Roy Mercer to a fox-terrier and the comparison was apt. Active, quick, bright, keen-minded, and lovable, the lad had won a place in the heart of each one of his camp mates. And though he was only fifteen years old, they all looked up to him. Now he regarded his two friends with scornful indignation. In his mind the act he had interrupted was little short of treachery to the other fellows. He was about to express himself further, when Henry spoke up.

"Just hold your horses, Roy," he said with a laugh, "or they'll run away with you so far you'll never get back. We're not making this for ourselves alone. We're doing it for the crowd."

"Then why don't you let the crowd in on it? Don't you think we'd like to help make the outfit?"

"What kind of an outfit do you think a dozen fellows would make," replied Henry, with a twinkle in his eye, "especially if they all fly off the handle like you? Somebody has got to learn how these things are done, so he can show the crowd. That's what Lem

and I are doing. When we get this outfit finished, and get it to working, we'll let the crowd know about it quick enough—won't we, Lem?"

"You bet!" said Lem.

"Yes, but you fellows will have all the fun making it," protested Roy.

"Well, you can have just as much fun making your own," replied Henry.

"Oh, gee! Are we each to have an outfit?" cried Roy. "Bully for you, Henry. When did you think of it? Say, you're a pippin, Henry. I'll take back all I said."

Henry and Lem laughed at this characteristic speech of Roy's and his good-natured retraction of his own words. And Roy promptly joined them. It was just this sort of earnest sincerity and sunny cheerfulness that made all the boys like Roy.

"Well, I'll tell you all about it, Roy," said Henry. "After we got back from Camp Brady, I visited my uncle in Washington, as you know. He took me to see the government wireless plant at Arlington. He's a commodore in the navy, you know. Well, I got so interested in it I made up my mind to have an outfit of my own. I priced them, and the cheapest outfit I could get that was any good cost twenty-five or thirty dollars. I

wanted to buy one, but then I thought of our promise to save our money to buy our camp outfit for next summer, and I knew I couldn't buy the wireless and save anything for camp, too, so I decided to make an outfit. It won't cost much, and if it's carefully made it will work just as well as a factory built outfit. My uncle told me so. I've been studying wireless ever since. When we get this outfit made, Lem and I are going to help the other boys make outfits just like it."

"Gee! Then we'll have a wireless club," cried Roy, throwing his cap in the air. "Hurrah for the Camp Brady Wireless Club!"

Henry smiled at him. "Sure," he said. "It will keep us together during the winter, and we can be such good operators by next summer that we can have lots of fun with our outfits at camp."

"Oh, gee! Won't that be great!" cried Roy.

"We'll have to work faithfully at it this winter," said Henry, "and give Mr. Hardy a surprise when he comes home in June."

"He'll be a real doctor, then," said Roy, "and not merely a medical student; but I bet he knows as much now as most doctors."

"We're certainly lucky to have such a man for camp leader," said Lem.

"Perhaps Mr. Young may know something about wireless," suggested Roy, referring to Mr. Hardy's colleague as camp leader. "You know he finishes his engineering course this year."

"Well, let's get on with our work," said Henry. "Now that you are here, Roy, you may as well help us. Take that compass-saw and cut out one of those mounts for this primary coil."

Roy took the implement indicated and began to cut out a circular hole in a square block of wood that Lem fished out of the bench drawer, while Lem himself began to bevel the upper edges of the base block he had cut out, and Henry started to rewind his unwrapped secondary coil. They worked quietly and industriously.

When Lem finished his task, he took a second block like Roy's. It was marked exactly as Roy's had been, with a great circle. But instead of cutting completely through the wood as Roy was doing, Lem merely chiseled out a circular opening in the block. These two blocks—his and Roy's—were mounts for the primary coil Henry had made. The secondary coil was to slide in and out of this primary coil, on metal rods that would keep the two coils always concentric. These rods Lem made from old brass stair-rods, filing

them off exactly the length indicated on Henry's plan. Then he bored holes in the mount he had made, to support one end of these brass rods, and made a small block to hold up the other end of the rods. Roy finished his mounting block and made two circular wooden caps for the cylinder Henry was wrapping. He bored holes in one cap, at points indicated in the plan, for contact points and a switch for tuning. When Henry finished wrapping the coil, he cut off a piece of an old square brass rod he had picked up somewhere, and made a little metal slider with a wooden knob, to slide on it.

By this time the shellac on the primary coil was dry. Henry mounted this coil in the blocks Roy and Lem had prepared. These blocks were then screwed to the base block. The brass rod with the slider was fixed above the coil. Now Henry fastened the wire leads inside of his secondary coil to the contact points in the cap—which were really old bolts—both caps were fastened to the coil, and this was mounted on the stair-rods which were quickly fastened in place.

"Done!" cried Henry, as he fastened the last screw.

He began to test the instrument. The smaller coil slid smoothly in and out of the larger. The slider

was run back and forth across the larger coil to scrape off the shellac and ensure a good contact. The switch on the smaller coil worked perfectly.

"It doesn't look bad for a thing made out of mailing-tubes, old stair-rods, old bolts, and a piece of board, does it?" said Henry. "The only thing I had to buy was the wire and it cost only a few cents. My uncle gave me the plans, and he said if we made it carefully the instrument would work as well as any five-dollar coupler on the market."

"Gee whiz," said Roy, "you're a regular Edison, Henry. How did you think it all out?"

"Why, anybody could have made it with those plans," said Henry modestly.

"Let's see them," said Roy, eagerly.

For several minutes he silently studied the designs. Then he looked up and said, "They are plain enough, as you say, but it's going to cost a lot of money just for the materials. And how are we going to buy wireless outfits and save the money we promised to save for our camp outfits for next summer?" And Roy's face grew very grave.

Henry laughed. "You've got another guess, Roy," he said. "It will cost very little."

Roy looked his disbelief.

"Oh! It's true," continued Henry. "Take this variable condenser, for instance. We're going to make that out of a piece of old sheet tin that was left over when the porch roof was fixed. We'll cut it into little squares and fix it so that some of the squares slide between the others in two grooved pieces of wood. It'll take a little soldering, but that won't cost more than ten or fifteen cents, and it will be as effective as any three-dollar machine on the market. This fixed condenser we're going to make out of old sheets of tin-foil and some old photograph plates with the gelatin films soaked off. That won't cost anything, except for the copper wires twisted into each sheet of tin-foil."

Roy's eyes bulged open farther and farther. "You'll be making something out of nothing, next," he said admiringly. Then he fell to studying the plans again. After a time he said, "Here's something you can't make—a jump spark-coil."

"No," said Henry with a laugh, "we're going to let you contribute that, now that you're in the secret."

Roy's face was the picture of consternation. "Why, that would cost at least five dollars," he gasped.

"No, it won't," said Henry. "Now that you are helping Mr. Owens at his garage, you can pick one up cheap. Maybe he'll give you an old one. And while

you're at it, see if you can get any old dry cells. If we can get enough of them, we shall not need to buy new ones."

"Don't you want me to get an old motor-car or two for good measure?" inquired Roy, with a twinkle in his eyes. "Or perhaps we could borrow the garage for a while."

Henry laughed. "Just try, Roy," he said. "I'm pretty sure you can get what you want if you go about it right."

Roy sighed. "I'll try, Henry," he said, "but I'd rather tackle something else."

"Well, if you are so ambitious, take this sack and hike down the railroad track. Bring back all the old insulators and pop bottles you can find, and any pieces of wire you see. And say, Roy, do you remember that place where we used to get fool's gold in the cliff by the creek when we were playing 'Forty-niners'? Well, take this hammer along and knock out some of that. I want several dozen pieces."

"Is that all?" said Roy, his eyes dancing. "Sha'n't I bring along a railroad-car or two to fill up the bag?"

"Beat it," said Henry, shying a block of wood at Roy.

Roy dodged the missile, but made no move to go.

"Tell me what you want of those pop bottles," he demanded.

"I'll show you when you fetch them," said Henry, and turned to his work again.

Roy sighed and departed on his errand.

"What are you going to do with that fool's gold?" demanded Lem, as soon as Roy was out of ear-shot.

Henry chuckled. "Make a detector," he said. "Usually detectors are made of galena set in a brass cup. I'm going to use a piece of fool's gold in an old brass thimble. It'll work just as well as galena."

"What shall we do next?" asked Lem.

"Let's make our Leyden jar condenser."

Henry took an old fruit jar and pasted a sheet of tin-foil inside of it with shellac. Then he stuck a second sheet of foil on the outside of the jar. The foil covered only the lower half of the jar. Lem, meantime, cut and smoothed a circular wooden cap for the jar and bored a hole in the middle of it. Then he attached a piece of light chain to a big screw-eye. When all the parts were ready, the cap was adjusted to the jar, and the chain let down through the hole. The bottom of the chain rested on the inner lining of tin-foil, while the upper end was held up by the screw-eye atop of the wooden cover.

"Well, that didn't cost us a single penny," said Lem.

"No, and our helix won't either. I found some heavy fence wire for that."

They cut out and smoothed some strips of wood, which were first to be fastened together in pairs, like Maltese crosses, and then these crosses were to be screwed together to hold the coiled fence wire between them. It was a tedious task to saw the grooves in the crosses for the wire and then to coil the wire and force it into the grooves. But finally it was done and the companion cross screwed in place.

"There, that's done," sighed Lem. "Now for the other."

The second coil was easier to make than the first. When it was finished, one coil was mounted above the other on a round rod prepared for that purpose, and the helix was complete. It was of the "pancake" type.

"That would have cost us three dollars at least," said Henry, "if we had bought it."

By this time Roy was back. He came puffing in and threw down a bulging sack. "I can sympathize with a pack-mule now," he said, with a laugh. "And by the way, Henry, I stopped at the garage on the way back to dicker with Mr. Owens about a spark-coil. He

had two or three old ones from Ford cars and he said if I'd promise to stay with him all summer, he'd give me one of them. So I brought one along in the sack. You can use it until I make my own outfit."

"Good for Mr. Owens," said Lem. "Did you ask about the dry cells?"

"Sure. There's about a hundred of them in a pile in a corner and he said he'd be obliged to me if I would take them away."

"Are they in the sack, too?" asked Lem.

Roy looked at him disgustedly. "Do you know how much a dry cell weighs?" he demanded.

"Well, take the wheelbarrow and run over and get them," broke in Henry. "And see if you can borrow an ammeter, Roy."

Roy vanished with the barrow and while he was gone his friends made their spark-gap. They mounted two short wooden uprights on a wooden base block, and with little strips of brass fastened two short zinc rods across the top of the uprights. The zinc rods came out of an old sal ammoniac battery that Henry had picked up somewhere. The inner ends of the rods were filed to sharp points, and wooden knobs were fitted on the outer ends. By grasping these knobs the sharp points could be moved nearer together or farther

apart, so as to vary the distance across which the electric current would have to jump.

It is the electric current leaping between these points that sets up the vibrations in the ether that carry wireless messages through space. For the motion set up in the ether by an electric spark is similar to the motion created in water by the dropping of a pebble. The bigger the pebble, the farther the wave will carry. So the longer the electric spark, the farther the ether wave will travel.

By the time Roy returned with the dry cells, his comrades were putting away their tools. Like Roy, they were working in the afternoons in an effort to earn the money they had promised to save toward their camp outfit for the coming summer. Reluctantly they stacked the dry cells on the bench, put the borrowed ammeter in the drawer, and locked the shop door.

"That's just a precaution in case some more inquisitive people like Roy come snooping round here," said Henry, with a smile, as he turned the key.

"Humph!" snorted Roy. "If I tell them what happened to me, you won't be bothered by anybody 'snooping round.'"

Early the next morning the three met at the shop

again. Henry had already tested the dry cells. Many were completely exhausted. A few had as much as eight amperes of current. Henry had found twenty-four that had approximately six amperes each. He had placed them in four groups of six cells each. At once he set his comrades to wiring up each group in series. When this task was done, he connected the four groups in parallel.

"Those old cells will give us as much current as six new ones, Roy," said Henry, "so we save about two dollars. You grab every old cell you can find about that garage."

For several mornings the three boys continued their labors in the shop. They made a very creditable wireless telegraph-key. Roy was of great assistance here, for he was able to cut and smooth the metal parts nicely at the garage. Then a switch was constructed. The aerial was made of old fence wire and some of the insulators Roy had gathered up by the railroad. Some old pulleys and ropes belonging to Henry's father were used for hoisting the aerial, and the ropes were tarred to preserve them. The aerial was hung between a tree and a pole erected on top of the shop. The wire connecting with the aerial was brought into the shop through a hole bored in the wall, and a pop bottle,

with the bottom broken out, was used as an insulator in place of a porcelain tube.

"We don't save much on that," said Henry, "yet every penny counts. And besides, Roy, you had some wholesome exercise getting the bottles."

"I should say I did," replied Roy.

The ground-connection was made by driving a piece of iron pipe deep into the ground and twisting the wire tightly about it with a pair of pliers.

Henry then brought forth a pair of receivers which he had bought. The various instruments were wired together, the batteries connected up, and the system was complete.

The boys surveyed their work with delight.

"The only things we had to buy were the receivers, and the copper wire for the coupler," said Henry. "Now let's see if it will work."

The boys scarcely breathed as Henry bent over the table and pressed down the key. Then a shout went up, for there was a spurt of flame and a crackle as electric sparks leaped between the points of the spark-gap. They adjusted the points so as to get the best spark possible.

"Now," said Henry, his face beaming with pleasure, "you can tell the crowd all about it. If it will trans-

mit, it will surely receive. You're such a success as an errand boy, Roy, that I appoint you as messenger to notify the crowd. Invite them to meet here at nine-thirty to-night sharp for a time party. Don't tell them a thing. We'll give them a bigger surprise than you had."

Without waiting to reply, Roy dashed off to deliver the invitation.

CHAPTER II

GETTING THE TIME FROM ARLINGTON

THE first one of the Camp Brady boys to respond to Roy's invitation was Roy's own chum and camp tent mate, Johnnie Lee. Probably Roy had whispered to Johnnie something more than the mere invitation to be present at Henry's workshop at nine-thirty. At any rate Johnnie was on hand before any of the others arrived. When he saw the shining cylinders of wire and all the various instruments, standing in orderly fashion on the table in the corner, his eyes nearly popped out of his head. And when Henry explained how the outfit worked, allowed Johnnie to press the key and send the sparks leaping across the spark-gap, and told him that each of the Camp Brady boys was to have an outfit, Johnnie was wild with delight.

He was still deep in his examination of the mysteries of the system when Willie Brown bounced in. Willie was about as small for his age as any boy of fifteen years could be; and until he had gained confidence

in himself at Camp Brady, had been backward and diffident. He was at once all interest in the plan for a wireless club, for he knew that though he couldn't run as fast as Jimmy Donnelly or lift as much as Henry, he could learn to handle a wireless key as well as any of his comrades if he worked faithfully enough at it; and immediately he resolved that he would be second to no one as a wireless operator.

"Just think," said Willie. "We can talk to each other every night without ever leaving our rooms."

"Yes," said Henry, laughing, "and all of us can 'listen in' and hear what everybody is talking about. You'll have to be careful what you say, Willie."

Just then Lew Heinsling came in. One glance told Lew's keen mind the entire story. "Now I know what Roy meant by a time party," said Lew. "You've got a wireless outfit and you're going to get the time signals from Arlington, the way they did on the steamship that took us to Maine last summer." He was silent a moment as he examined the instruments. Then he asked, "Where did you get the outfit, Henry?"

"Lem and Roy and I made it," said Henry. "This is a sort of model outfit for the rest of you to copy, but

perhaps you can improve on it when you make your own."

Lew gave a whoop. "A wireless club," he cried. "Won't that be bully? And say, what fun we'll have at camp next summer. Why, we can make a portable outfit and take it along on hikes and talk with the fellows that stay at camp. Say, if my father had only had a wireless outfit when he broke his leg up in the North Woods ——"

Lew was interrupted by the entrance of Charley Russell, who at once began to chatter like a squirrel. He was always imitating animals, and Lew's mention of the North Woods made him think of squirrels. There were so many boys standing in front of the wireless that Charley could not see the outfit.

"What's going on, anyway?" he inquired, after finishing his squirrel call.

Before Henry could answer, three boys came through the doorway. They were Carl Dexter, sixteen years old, who had proved himself to be a very remarkable pistol-shot; Robert Martin, also sixteen, and Alec Cunningham. Robert was the best swimmer and Alec the best canoeman among all the Camp Brady boys. Hard on their heels came Jimmy Donnelly, and George Larkin. Both were large boys of sixteen.

"We're all here now except Teddy," said Henry, as George entered, "and of course he can't come. He's up on the farm."

"It's a shame Teddy isn't here," spoke up Lew Heinsling.

Teddy was the son of Farmer Robinson, who tilled the Hardy farm, near Fort Brady, where the boys had been in camp. He had saved Lew's life during the month at Camp Brady, and Lew loved him like a brother.

"Of course it is too bad he isn't here," agreed Henry, "but I don't see how we can help it. Teddy is one of us, and will have to have his outfit, too. Then, if our outfits have power enough, we can talk to Teddy 'way up at the farm."

"Oh, gee! Won't that be bully!" cried Lew, in delight. "Teddy can tell us all about the farm and what is doing there, and we can tell him what we are doing here. Say, isn't wireless great?"

"It's pretty near time for the time signals to be sent out from Arlington," said Henry. Then turning to Roy, who sat at the table with the receiver strapped to his ears, he said, "Can you hear anything, Roy?"

"Sure," said Roy. "But it doesn't mean anything to me yet."

"Let me try it," cried half a dozen voices at once.

Boy after boy slipped the receivers over his ears and listened to the shrill buzzing sounds that were recorded.

"Suppose we tune up for Arlington," said Henry. "It's almost time for the signal. It starts at five minutes before ten."

He slipped the receivers over his ears and adjusted his condenser and tuning coil. "Arlington uses a 2,500 meter wave length," he said, "and this is the way my directions say to tune for that length. Now be quiet a little."

He laid his watch on the table before him and sat listening. Suddenly his eyes sparkled. He listened intently for a few seconds. "I've got it," he said, "but it's very faint."

He shifted his condenser again and moved his tuning coil experimentally. "Now you can hear it good," he said, his face shining with delight. "Here. Listen a few seconds." And he handed the receiver to Lew who stood at his elbow.

Lew listened and his face lighted up with a smile. "You can hear as plain as can be," he said. "The wireless ticks off the seconds."

Rapidly the receiver was shifted from boy to boy,

and each heard the shrill buzz, buzz, buzz, as the wireless ticked out the seconds. Before the five minutes were up Henry had the receiver again.

"Get ready to set your watches," he said.

Every boy pulled out his timepiece.

"The beating has stopped," said Henry. "The next tick is the hour signal. Get ready."

Each boy had the stem of his watch in his fingers.

"Now!" cried Henry. "It's just ten."

A dozen watches snapped and a dozen boys smiled with pleasure.

"There's no use listening for anything more," said Henry, as he rose from his chair and turned his switch so as to connect aerial and ground-wire, "for we couldn't understand it if we should hear anything."

"Then we had better get busy and learn to understand what we hear," said the ever-practical Roy.

"Exactly what I was going to say," spoke up Lew Heinsling.

"Then you should each write to the Chief of the Bureau of Navigation, at Washington," said Henry, "and ask for copies of the radio laws, lists of amateur stations, and the codes and abbreviations used in wireless telegraphy. As soon as your stuff comes, begin to learn your alphabet. I think we had better use the

Continental code as it is easier to receive than the old Morse code. Meantime we'll get our outfits made. I've got plans, if anybody wants to use them; but I believe you'll find it easier if you just examine my outfit and copy it."

CHAPTER III

THE CAMP BRADY WIRELESS CLUB

BUSY, indeed, were the days that followed. Judging by the way the Camp Brady boys scoured the town, Central City might have thought it was clean-up week. Garrets and outbuildings were combed for possible parts for wireless outfits. The railroad right of way was cleaned of old insulators, wire, and other pieces of metal that could be utilized in wireless construction. Even the dumps and ash heaps were inspected, and several useful articles discovered there. In ingenuity the club almost outdid Henry, now that the boys had gotten the idea of substituting materials that cost nothing for expensive parts.

And Henry's workshop suddenly became as busy a place as a political headquarters. Every time one of the club members got his materials all collected, he put them in a bag and headed straight for Henry's workshop. Boys were passing in and out at every hour of the day, and the shop rang with the sound of hammer and saw and merry voices.

Not all the boys were good mechanics, and several of them lacked that first essential of mechanical ability, patience. Alec Cunningham wanted Henry to help him wind his loose coupler.

"Don't you think you had better do it yourself?" said Henry.

"But I can't do it well," protested Alec. "And besides it's such a bother to wind all that wire."

"I'm sorry, Alec," said Henry, "but if you can't do it well, here's a chance to learn how. Every one of us ought to be able to make or mend any part of his outfit."

"Ah, come on, Henry," urged Alec. "Help a fellow out."

"That's just what I'm doing, Alec," said Henry. "You know Lew suggested some hikes with portable outfits. Maybe we can make some of those trips in your canoe. How would you feel if you paddled twenty-five miles from camp and your wireless went wrong and you couldn't fix it? Better get busy, Alec."

"Henry's right," said Lew. "Why, if my father hadn't known what to do the time he sprained his ankle in the North Woods ——"

"Hey, Lew," called Roy, "the leg was broken the last time you told the story."

A shout of laughter went up.

"Well," protested Lew, "he did break his leg and he sprained his ankle, too. And one time he nearly lost his life because his axe was mislaid. Henry's right when he says each one of us should be able to depend upon himself."

Long before all the outfits were completed, the wireless data began to arrive from Washington. There were charts containing the International Morse Code, with numerals and punctuation marks, and conventional signals commonly used, and other charts with a list of the common abbreviations. Then there were application blanks for those desiring to secure licenses as amateur operators, and copies of the radio law and regulations. What interested the boys particularly were the lists of radio stations. These lists gave the location, call signals, and wave lengths of all government and commercial stations on land and on ships, and a complete list of all licensed amateur stations with their call signals, location, and power of their plants. And the bulletin stated that all amateur stations were required to use a wave length not to exceed 200 meters.

Eagerly the Camp Brady boys perused their lists of stations. There was not a single station listed for

Central City, though only a few miles distant was a United States government station.

"We'll put Central City on the map all right when we get our licenses," said Roy.

"Are we going to get one license for the club, or get individual licenses for each of us?" demanded Jimmy Donnelly.

"I want my own license," said Robert Martin.

"I think it would be nicer to have the name of the club in the directory," said Lem. "We all owe so much to Camp Brady that we ought to do all we can to bring honor to the name. I'm for a club license."

"So am I," said Willie Brown, vehemently.

And considering all that their stay at Camp Brady had done for these two boys, it was not surprising that they felt as they did.

"But suppose somebody wanted to call you personally," protested Robert. "He couldn't do it if your name weren't in the list."

"Maybe we can get licenses for ourselves and one for the club, too," suggested Henry, with a smile. "But I can tell you one thing. You've all got to be able to pass an examination before we get any kind of a license."

That ended the discussion, but it was noticeable that

all the morning long Willie Brown was studying his alphabet chart as he twisted wires and tightened screws. Occasionally he stopped and tapped on the bench.

"Willie's at it already," laughed Roy. "What are you sending, Willie?"

"Practising my call signal," said Willie.

"What is it?" asked Roy.

"W. B., of course," said Willie.

"But all signals have three or more letters," said Henry. "How would it be if we all used CB for two of our letters and added a letter of the alphabet according as we come alphabetically—in just the order we used to practise pistol firing, I mean. Alec comes first because his name begins with A. So his call would be CBA. Carl comes second and his signal would be CBB. Charley is third, and he could use CBC. What do you think of that idea?"

"Bully!" cried Lew enthusiastically. "That gives us both the club name and our own. Wonder what my call will be?"

He began to set down the names of the boys alphabetically, and add the proper letters. "I'm CBG," he said, when he had finished. Then he turned to his tent mate Carl, and said, "And you are CBB, as you already know."

of the *Echo* was to contain the date and the name of the compiler, and the copies were to be filed at the club headquarters in Henry's workshop.

A second suggestion was for the construction of one or more portable wireless outfits and the taking of two practise hikes during the fall and the winter. The first hike was to be held early in September, on the two days preceding the opening of school. All the boys would then be through with their work and free to go.

CHAPTER IV

THE HIKE OF THE WIRELESS PATROL

IT would be hard to find a dozen boys more excited than were the twelve members of the Camp Brady Wireless Club when they assembled in Henry's shop the morning after the committee made its report. Everybody was talking hike. The opening of school was only a few days distant. The proposed tramp was two days nearer still. Every boy was afire with eagerness.

When Henry got the boys in order, the committee chairman reported that inasmuch as some of the club would have to stay at home to receive the messages sent by the hikers, it had been decided to have two hikes. Half of the club should go on each hike. The members of the first trip were to be drawn by lot. Alec Cunningham, Jimmy Donnelly, Lem Haskins, Carl Dexter, Lew Heinsling, and Willie Brown were the lucky boys.

Lew, who had three times been to the North Woods with his father and was a really good woodsman

on Henry's key here and listening to the letters as I made them. I found I could remember them better when they were mixed up that way than I could if I just made them in order."

"Willie's stolen a march on us right under our noses," laughed Henry.

In a few days more all the outfits were completed and set up, and Central City fairly bristled with wireless antennæ. Every night at eight o'clock the Camp Brady Wireless Club assembled for practise; but it was the kind of assemblage foreshadowed in Willie Brown's remark that the boys could talk to one another without ever leaving their rooms. For each member of the club sat in his own room at his own wireless outfit, with his receiver strapped to his ears. Henry always called the boys together.

"CBWC—CBWC—CBWC," (Camp Brady Wireless Club), his key rapped out; and promptly came the individual responses, CBA—CBA—CBA, CBB—CBB—CBB, CBC—CBC—CBC, and so on, as each member answered the general call. Then Henry asked one question of each boy; and slowly the replies came back through the air, while every other boy listened in. It was good practise and the boys made amazing progress. But Henry and Willie could still

read faster and send faster than any of the other boys.

After the regular evening practise, each boy tried to catch whatever news he could pick from the air. Each kept a log-book, and on Friday evenings the boys met in Henry's workshop and compared notes, to see whether they had picked up the same messages.

In a few weeks the boys could talk to one another readily by wireless. Their wireless club had never been formally organized. Now they felt that it was time to effect such an organization. So a constitution and by-laws were drawn up and a night selected for the election of officers. The election was to be by wireless.

Promptly at eight o'clock Henry rapped out the signal, "CBWC—CBWC—CBWC," and each boy answered present by flashing out his call. When all had answered the roll, Henry rapped out this message: "Nominations in order for president."

"CBK—CBK—CBK," came the message, as Roy demanded the floor.

"CBK OK," flashed back Henry, and Roy had the floor.

"I nominate Henry," rapped out Roy.

"Henry declines," was the answer.

"CBA—CBD—CBH—CBM—CBL," came a medley of protesting calls.

"CBE—CBE—CBE," rapped out Henry, using his own signal to call the meeting to order.

The wireless outcries ceased, and Henry recognized the first signal he had caught. "CBA OK," he flashed.

"CBA says you can't decline," ticked out Alec. "You've got to be president."

"CBH—CBH—CBH," came the call. It was Lem asking for the floor.

"CBH OK," answered the chairman.

"We won't take no for an answer," declared Lem.

"CBK—CBK—CBK," again called Roy.

"CBK OK," responded Henry.

"I move the nominations close," signaled Roy.

"CBM—CBM—CBM," called Willie Brown.

"CBM OK."

"Second the motion."

"Any discussion?" telegraphed Henry.

"Question," ticked some one.

"Question called for," telegraphed Henry. "All in favor give their signal in alphabetical order."

Twelve signals came in promptly.

"Henry Harper elected president," ticked out Henry. "He accepts. Many thanks for honor."

So the election went, until Willie Brown was elected secretary and Lem Haskins treasurer—Lem Haskins, who a few weeks previously had been despised by every boy in the club, and wee Willie Brown that everybody thought wasn't any good for anything. No wonder these boys were loyal to the camp that had done so much for them.

When the election was ended, Henry ticked out, "The president appoints Lew, Jimmy, George, and Johnnie as a committee on wireless practise. This committee will report to-morrow night. Any further business?"

"Move we adjourn," ticked out Roy.

When the club assembled at their wireless keys the next evening, the committee reported that it had decided that the club should print a weekly news sheet, to be called the *Wireless Echo.* Each week a different member of the club was to listen in from nine to ten o'clock for general news and record the most interesting items. At the end of the week these items were to be written—typed if possible—on a sheet of foolscap, for circulation in the club. Not less than two items should be recorded for each night. Each edition

of the *Echo* was to contain the date and the name of the compiler, and the copies were to be filed at the club headquarters in Henry's workshop.

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Lew, who had three times been to the North Woods with his father and was a really good woodsman

though only sixteen years old, at once suggested a journey over the mountains and return.

"We can climb to the top of Sunset Mountain and camp there overnight," he said, "and go down the far side of the mountain next day and come home through Half Way Notch."

Alec objected strongly to the suggestion. He was rather stout. Hiking thirty miles with a pack on his back did not appeal to him and climbing mountains had still less charm for him. He recalled Henry's remark, made when they were constructing their outfits, that Alec would need complete knowledge of his wireless in case he should be canoeing with a portable outfit. He was glad now he had that knowledge, and he was determined to make this journey by boat. Lem and Jimmy favored Alec's idea.

"It'll be lots more fun," said Lem, "and we sha'n't have to carry all the stuff on our backs. We can just float along and take things easy."

"You always were lazy," retorted Lew, in disgust. "Isn't there anybody in this bunch with pep enough to hike and carry a pack?"

"We're with you," said Carl and Willie.

So it was decided to have two parties of three each instead of one party of six. Alec, Lem, and Jimmy

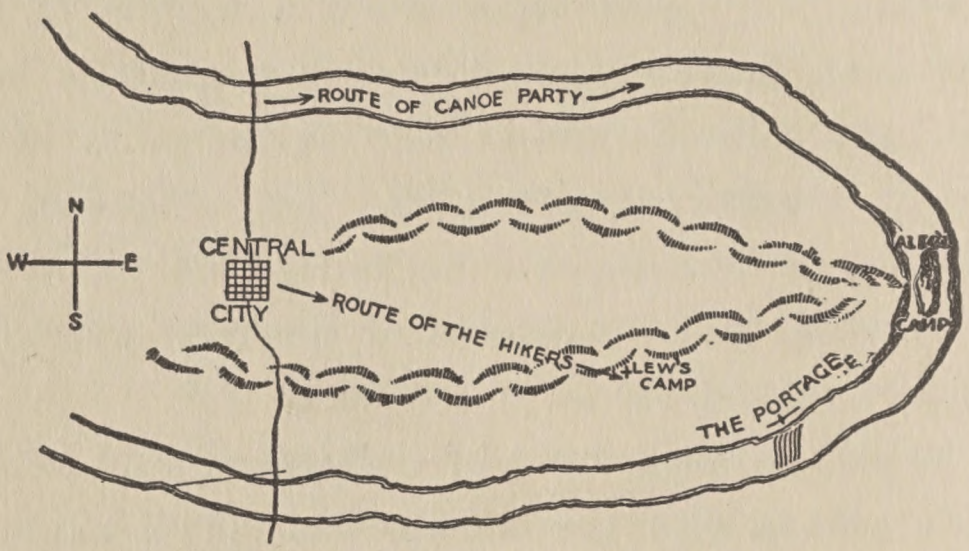
were to go by canoe. The others were to walk. Properly it should have been just the other way, for the canoeists were all large and strong, while the three others were small, and Willie was the smallest boy in the club. It really seemed as though he was too frail to carry a pack.

Central City was situated on a tongue of land around which the river flowed in a gigantic horse-shoe bend. From Central City to the point of this bend it was fully twenty miles. The tongue of land itself was at least eight or ten miles wide. The country between the two reaches of the river was mostly wild and rugged.

The plan as worked out by the party was as follows: Alec's party, with the canoes, their duffel and outfit, were to be hauled to the northern arm of the river and float down-stream. Alec was to paddle one canoe alone while Lem and Jimmy manned the other craft. This party was to proceed to the end of the point and camp there overnight. Lew's party were to shoulder their packs and hike by compass south of east for a famous portage place where the canoes would have to be carried around the rapids. This party were to camp where night overtook them and go on the next morning to the place of rendezvous. They were to traverse a country

sparsely settled, almost without roads, and extremely wild and rugged. And they would have to cross over one considerable chain of hills. From the portage all six boys would come home in the canoes.

The accompanying map shows the routes of the two parties.



A good highway ran north and south through Central City, crossing both reaches of the river. A team was to meet the party at the bridge over the south bend and haul the boats home. The canoemen would travel about forty-five miles on the river. The hikers would tramp fifteen and come fifteen in canoes. But though they were to walk only fifteen miles in two days the hike would test their mettle, for the way was very rugged.

By way of equipment each boy was to wear light

woolen underclothes and a flannel shirt and carry a sweater. Each party was to carry one hatchet, a first-aid kit, cooking outfit, grub, and a square of canvas for a lean-to in case of rain. In addition each party was to take one pistol. The training at Camp Brady had made good marksmen of all the boys, and the discipline had rendered them trustworthy with firearms. In such a rugged country there might well be need of a revolver. Finally there were to be two portable wireless outfits.

It was decided to carry only the simplest possible form of apparatus. Each party was to take six new dry cells to supply current, a spark-coil, spark-gap, key, detector, receiving set, switch, and aerial. No tuning instruments were to be taken. Inasmuch as the wireless sets of the club members were almost exactly alike, they were already in tune with one another, and tuning instruments were needed only for talking with or hearing from outsiders. Alec and Lew were to take the necessary parts from their own outfits. It was decided to take the aerial wires from the spreaders and coil them as tight as possible. The spreaders were to be carried separately.

The six dry cells would give one-sixth of a kilowatt of current, which would make it possible to transmit a

message twenty-five miles easily and under favorable conditions two or three times as far. Thus both parties would always be within wireless reach of each other and of Central City.

The entire club assembled early on the appointed day, to see the adventurers depart. A wagon with the two canoes and the packs of the canoeists was already standing at the curb in front of Henry's home. The hikers' packs were snugly tied and ready to be strapped to their backs.

Henry looked the parties over with satisfaction. They were well equipped, both in material and training, for their ventures.

"You had better get started before it grows hot," he said.

The club filed out of the shop.

"Three cheers for the Camp Brady Wireless Patrol," cried Roy, hiding his disappointment at not going, with an expression of loyalty to his more fortunate fellows. The cheers went ringing upward.

"That's a good name, Roy," said Henry. "It sounds a lot better than Camp Brady hikers. Let's adopt it officially."

The name was adopted by acclamation. The two wireless patrols moved off in different directions. Alec

and his companions found places in the wagon with the canoes. Lew and his comrades swung off toward the eastern end of town, in step and three abreast, and looking very much like a real patrol as they marched along with their blankets and packs on their backs.

At the edge of the town they struck a road that led almost east toward the hills. This ran but a short distance to a farm. Here Lew took his direction by compass, the patrol crossed a field, and soon the three boys were lost to sight in the woods.

Now Lew took the lead and the others followed in single file. Willie marched between Lew and Carl. The woodland was fairly open and the ground not particularly rough. For two hours the boys made good time. Then they paused for rest at the foot of a hill. The right shoulder of this hill was near at hand, and they decided to go around it. A half mile tramp showed them the way was impracticable. An impassable swamp barred the way. The side of the hill overlooking the swamp was too steep to walk along. There was nothing for it but to go back where the slope was more gradual and climb over the hill.

Lew got his bearings and they started up. They went slowly and more slowly still. Every few minutes they had to stop for rest. It was now very hot. Their

shoes slipped on the dead leaves. Their packs grew ever heavier. Suddenly a covey of pheasants flew up from almost under their feet, and with a tremendous whirring of wings darted out of sight behind a thicket. All three of the boys were startled. Later some large animal went crashing away through the brush at their approach, but they could not see whether it was a deer or a bear. They could not spare the time to try to track it. Patiently they plodded upward. The packs grew heavier and the heat more intense. Willie felt as though his shoes were made of lead. But they laughed at their difficulties. They had chosen to hike and they would not grumble at the result. After what seemed hours they reached the top. Packs were slipped off and the boys sat down for a good rest.

The descent of the hill was easy. Willie, not well versed in tramping, started down the hill at a fast pace.

"Cut that out," called the more experienced Lew. "First thing you know you'll sprain your ankle and then we'll be in a nice fix."

But it was so easy going down-hill that Willie hustled on ahead of his comrades. He was going so fast that he almost stepped on an enormous blacksnake before he saw it. When the thing went thrashing into

the bushes, from almost under his feet, Willie's heart stopped beating for a second. After that he was willing enough to go slow and take his place in the line.

Dinner was cooked and eaten in the little valley separating the hill they had just crossed from the much higher hill that had yet to be surmounted.

"We've got to go straight up that hill," said Lew, consulting compass and map, "and be on the other slope before supper time, or darkness will overtake us before our wireless is up."

After a rest he shouldered his pack and swung off in the lead. It was a long climb up the hill, but the journey was finally accomplished without incident. After a rest at the top, Lew started down the slope, looking for a suitable camp site.

Presently he found exactly what he was looking for. Part way down the hill, on a fairly level bench of land, was a natural opening in the forest. Here a spring bubbled out of the earth and went singing down the slope to join the river. This lay before them, seemingly at their feet, although in reality still some miles distant. They could see miles of billowing green. The opening in the forest was some rods in extent. Close beside the spring one solitary tree stood within this opening. A great storm had torn off every limb

but one and this dangled aloft, broken and almost ready to fall.

"That tree is just the thing for one end of our aerial," said Lew, "but we'll have to cut off that limb. Let's hunt a tree for the other end."

Their aerial was fifty feet long, and they began to hunt along the nearest edge of the forest wall.

"Here's just what we want," cried Carl, after a moment's search. He had found a tall, straight tulip-tree standing out from the line of the forest and not more than seventy feet from the other tree.

"Let's get our wireless up the first thing," said Lew. "It will be dark soon. We can make camp and cook after nightfall if we have to, but it would be hard to get our aerials up then."

The packs were opened at once. The wireless instruments were assembled and Willie began to wire them up. Carl shinned up the tulip-tree with the hatchet in his belt and lopped off the lower limbs so they would not interfere with the wires. It took quite a while to cut them with the small hatchet. Meantime Willie had completed the coupling up of the instruments. Now Carl dropped his hatchet for Lew to use, while Willie tossed him the end of the aerial rope. Carl fastened a pulley to the tree, put the rope

through it, and descended to the ground. Everything was ready for hoisting his end of the aerial.

It was now almost dark. A wind had sprung up from the east, blowing diagonally up the slope.

"It looks like rain," said Lew. "You fellows get a supply of wood while I get this tree ready."

Willie stacked the grub near the spring, then went off into the forest with Carl to bring wood. Lew started up the tree to chop off the dead limb. The wind freshened and the broken limb began to swing back and forth. It was hanging by a slender strip of wood.

The tree was big and hard to climb. As it had no limbs Lew had to shin up all the way. It took him some time to reach the broken limb. By this time it was almost dark. Just as Lew reached the limb, a rattling of dishes at the foot of the tree sounded in his ears; but he did not look down. He raised his hatchet and with one blow severed the swinging limb. Then he started to slide down the limbless trunk.

The broken branch fell with a crash. A loud growl and the sound of a blow followed. Lew gripped the trunk and looked down. Dimly he could see a great black form at the base of the tree. A big bear had chanced upon the provisions and the falling limb had

hit and angered it. The animal had come from windward and so had not detected the presence of the campers.

Lew was not particularly alarmed. He had met bears in the woods before. "Get out!" he shouted, thinking to frighten the animal away. The answer was an angry growl. Again Lew yelled. The bear reared up and began clawing at Lew's feet, which fortunately were well out of reach. Lew still had the hatchet in his belt. He flung it at the bear, with the result that the slight wound inflicted made the animal more angry than ever. The beast even showed a disposition to climb the tree after Lew.

For the first time Lew felt real fear. And his fear increased as he took stock of his situation. He was up a limbless tree, without a weapon of any kind, and with an angry bear on guard below. If the bear chose to climb, as it seemed almost on the point of doing, there was no possible escape from it. It looked as though escape was impossible anyway, for Lew could not hold himself up the tree many minutes and his companions were without means to kill the bear or drive it away.

Then Lew thought of Carl and his pistol. There lay the only apparent chance of safety. He knew

what a wonderful shot Carl was and recalled the way in which Carl had saved himself at Camp Brady from the copperhead. Carl was his only hope. But could Carl with a small revolver do anything against a bear?

Lew began to shout frantically. "Help! Help!" he called. And when his comrades answered from the forest, he cried out, "I'm treed by a bear. I can't hold out much longer. Can't you shoot him, Carl?"

There were answering shouts and in the darkness Lew heard the rushing footsteps of his comrades.

"Be careful," he called. "The bear is right at the foot of the tree."

Dimly he made out the forms of his companions as they came out into the open. Carl drew his revolver, but he felt almost as helpless as Lew did. He knew he had no chance of killing the brute with his little weapon. Only a shot in the eye, which might penetrate the brain, could overcome the beast.

Cautiously Carl approached, trying hard to overcome the fear he felt, for the wounded bear was snarling frightfully. The beast turned toward Carl and was apparently about to charge him.

"Careful, Carl," yelled Lew.

At the sound of Lew's voice the bear turned to the tree again.

"I'll keep his attention while you shoot," cried Lew, and he slid a little farther down the tree and made a scraping noise on the bark with his feet. The bear reared up again and reached for Lew's feet. Lew drew them up and a chill went through his heart as he realized that he had slid down too far. The bear could almost reach him. And he was so tired he could hardly hold himself up, let alone climb higher.

"Hurry, Carl," he called, "I can't hold on much longer."

Carl drew cautiously near, circling for a shot at bruin's eye. But now the bear kept turning from Lew to Carl, and Carl could not see well enough to risk a quick shot.

"Hurry up," called Lew, and the tone of his voice showed his extremity. "I can't hang on much longer."

Carl raised his pistol, but the bear shifted his position and the aim was spoiled.

Suddenly from out of the darkness on the other side of the tree the little form of Willie Brown darted forward. Willie rushed to the wireless outfit and felt for the key. The bear heard him and turned to charge. As the beast dashed forward, Willie threw on the switch, pushed the key toward the bear and pressed down on it.

A blinding flash of light rent the darkness. The electric current hissed and crackled. The flame was almost under the bear's nose. With a snort of fear bruin wheeled in his tracks and went crashing off into the dark forest. A second later Lew fell to the earth in a heap. His muscles were completely exhausted, but otherwise he was unhurt.

For a minute nobody said a word. Then Lew turned to Willie. "That was the bravest and brainiest thing I ever saw," he said, "and I shall never forget what I owe you, Willie."

"It wasn't either," said Willie, now white and trembling. "I was scared to death and I only did what a wireless man on shipboard did when a lion got loose. I thought that if an electric flash would scare a lion it ought to frighten a bear, and it did." Willie drew a long breath. "Gee!" he said at last. "If that bear's scared as bad as I was, I'm sorry for him."

But Lew knew, despite Willie's modest words, that the fellow who is frightened and still does his duty has far more real courage than the man who doesn't know fear.

In a few moments a fire was driving back the darkness, with its leaping flames, and heartening the frightened lads. Willie built the fire up high and Carl went

aloft and fixed the aerial rope in the limbless tree. Then the aerial was hoisted, and the wireless patrol was ready to communicate with their fellows.

It still lacked a few moments of the time appointed for communication and the boys hastily cooked and ate their supper. Then Lew sat down at his instrument and listened in. He heard nothing and began to rap out the call for headquarters. Afar off the boys could see lightning. The storm they had feared was coming.

"It's ten minutes past the time to call," said Lew, "but I can't hear a thing. It must be the atmospherics are interfering with radio communication tonight."

"Funny about atmospherics, isn't it?" said Carl. "Why is it that you can communicate better in winter than in summer, and over land than sea? And why is it that one man can get a message through when another can't, and why do atmospherics have such an effect on radio communication anyway?"

"I don't know," said Willie, "but I wish we had one of Professor Pupin's instruments to overcome atmospherics. Then we could talk under any conditions."

"Well, we don't have," said Lew, "and nobody

ever will have except the government, for he gave his invention to the nation."

"I wish we could do something for our country," said Willie. "I'm too little to fight, but maybe I could learn to be a good enough wireless man to help Uncle Sam some time. If things keep going as they are, Uncle Sam may need our help."

"You may be too little to fight," said Lew, "but I can testify that you're not afraid to fight, Willie. Anybody that could drive a bear ——"

"Here," interrupted Willie. "Let me see what I can do with that key."

"Take it," said Lew. "You're the best operator in the bunch. Maybe you can raise somebody."

Willie strapped on the receivers and sat down at the key. "CBWC—CBWC—CBWC CBM," (Camp Brady Wireless Club, Willie Brown calling) he rapped out; and somehow the instrument seemed to sound different under his manipulation. Three times he repeated his call, then stopped to listen.

Almost at once he caught an answer.

"CBM I—I—I ——" (Willie Brown, I'm here) came through the air.

"Got 'em," said Willie. "And it's Henry talking."

"Did he say so?" asked Carl.

"No," said Willie, "but I know it's Henry, just the same."

"It beats me," said Lew, "how you can do that, Willie, yet I know you can."

"I don't know," replied Willie. "It sounds different when Henry is at the key."

"Ask if the other patrol has been heard from," said Lew.

Willie ticked off the question.

"That must be them now," said Willie. "There are two messages mixing up in the air. I can't get either one straight."

"Headquarters, please be quiet a moment," rapped out Willie. Then he sat and listened.

"There they are," he said. "That's Alec talking, too. I know his style. Says he was listening in when we called headquarters and heard all we said. Wants to know if we had any adventures."

"Sure thing," ticked out Willie. "Lew treed by bear. Scared off by wireless."

"Quit your kidding," came the answer, "and tell us what you did."

"I'll tell him all right," said Lew, when Willie had repeated Alec's message. He took the key.

"That's the truth," he rapped out. "This is Lew

talking. Bear treed me. Willie drove him off with a four-inch spark. He nearly got me. What happened to you?"

"Absolutely nothing," came the reply. "Just drifted along all day and didn't see so much as a muskrat. Tell us more about that bear."

For ten minutes the two patrols talked about Lew's adventure. Then Alec asked, "Where are you?"

"On east slope of Outlook Hills," ticked Lew. "Can see river and portage from here. Can make portage in three hours' hike. Where are you?"

"On island in bend of river. Raining here. Got our canvas slung up between trees. Good and dry. How are you?"

"Storm missed us," said Lew, "but we could see it."

"When shall we meet?" asked Alec.

"Ten o'clock," answered Lew. "Good-night." Then he called, "CBWC—CBWC—CBWC CBI."

"CBI I—I—I," came back the answer.

"Could you hear Alec and me talking?" asked Lew.

"Heard every word," was the reply.

"Any important news going to-night?" asked Lew.

"Another ship torpedoed without warning. Some Americans aboard. Looks serious," came the reply. "Nothing else of importance."

"We're going to turn in," rapped out Lew. "Hard climb. Dead tired. Good-night."

The answering "good-night" came through the air, and Lew laid down his head piece. In a few minutes the wireless patrol was asleep. The boys were so tired that even the thought of bears could not keep them any longer awake.

The next day's hike was easy. A few miles of down-hill travel, partly in the open, brought the boys to the portage place. They got there within ten minutes of the time agreed upon. The other patrol was already on hand. Quickly the packs were toted round the rapids and the canoes were portaged. Then the six boys cooked and ate a good dinner. Soon the luggage was stowed aboard, three boys took places in each canoe, and the two boats dropped smoothly and swiftly down the river. In less than three hours the bridge was reached. The team was there, according to agreement, the canoes and packs were loaded aboard, and the Camp Brady Wireless Patrol went swinging back to Central City, in step and three abreast, from a scouting trip that was destined to be but the forerunner of many trips afield—some of them journeys of great importance to their native land.

CHAPTER V

HENRY HELPS OUT UNCLE SAM

SCHOOL days came with their exactions. For a time radio practise was confined to brief conversations between different club members and the nightly listening in for news despatches. There was a renewed effort, too, to earn money for the club camp outfit. The month's trip the preceding summer had been made possible only by borrowing practically all the camp outfit, and before camp ended the boys had pledged themselves to raise a definite sum to buy their own outfit for future use. The fresh taste of life in the open, that came with the trip of the wireless patrols, had freshened the pleasant memories of life at Camp Brady and stiffened the common resolve to earn the fine outfit that had been decided upon. So now, once the boys were accustomed to the discipline of school, they began to look about again for ways of earning money.

Roy, indeed, had never given up his work at the garage. Mr. Owens had found him so dependable and

intelligent that he had offered him a generous sum each week if Roy would relieve him at noon and at supper time. That made it possible for Mr. Owens to run his garage without the help of a second skilled mechanic. Indeed Roy developed such facility in the use of tools that he might almost have been called a skilled mechanic himself. He earned all that he received.

Johnnie Lee was delivering newspapers both before and after school. Robert Martin was working in a grocery store in his spare time. Alec had turned his love for boats to use and had found spare-time employment in a wood-working establishment where they made parts for boats.

Henry, like Alec, was making use of the skill he had acquired in play. He had become so proficient as a wireless operator that he had gained a great reputation in Central City. The doings of the Camp Brady Wireless Club had created great interest among the boys of the town, and Henry had been asked to help several boys install wireless outfits. When he found that he could earn money this way, he put a small advertisement in the Central City *Clarion*, and this brought him work from many neighboring towns. In a very short time he had all the work he could possibly find time to

do, and he was earning a goodly sum every week. On several occasions he had to go to the neighboring town of Frankfort where the government maintained a radio station. Here Henry made the acquaintance of the government operators. They found him so eager to learn that they took a great interest in him and taught him much about radio communication. In a short time, Henry could send and receive almost as well as Uncle Sam's own radio men.

Perhaps Charley Russell was earning his portion of the camp fund in the most unusual way of any of the boys. Charley was easy-going and did not take kindly to toilsome work of any sort. But if he was interested in a thing, he would work day and night at it. Charley's main interest in life was in animals, and for a long time he did not see how he was to make any money. He tried working in a store and quit in disgust. Then Judge Gordon happened to come along one day with some new hunting-dogs he had just bought. Charley at once stopped to pat the animals.

"They're beauties," he said.

"Yes, they're good stock," replied the Judge, "but they've not been broken to hunt yet. I'd give a good deal if I could find a man to train them right."

"I'll train them," said Charley, quick as a flash.

The Judge looked doubtful. Finally he agreed to let Charley try, and promised him a bonus in addition to the sum agreed upon, if he could teach them certain accomplishments the Judge particularly desired in his hunting-dogs. So Charley was happy. He had found a way to earn his money in work that he liked.

In fact every one of the boys was happy, for, in addition to his school tasks, each was busy at something that was helping forward the plans for the coming summer. But none of them was happier than Lew. And Lew was not earning a cent, as yet. He was making another wireless set. It was for Teddy. The latter had been almost lost sight of in the development of the wireless club, and as yet had no outfit. The outfit Lew was making for his chum was to be like all the others, but it would require more power to enable Teddy to send messages across the fifty miles of space that separated the Hardy farm from the Central City boys.

For some weeks the Camp Brady boys worked steadily at their various tasks. Then the six boys who had stayed at home on the occasion of the first wireless hike began to clamor for their trip afield. Winter was close at hand, and unless the trip were taken before the snows fell it would probably have to be post-

poned until spring. So the club discussed the matter at one of its regular Friday night meetings.

At these meetings each boy read from his log-book and comparisons were made of the items the various boys had picked from the air. On this night interest was centered in an item Henry had intercepted, that told of the discovery in New York of a secret German wireless station. The discovery was made possible, the dispatch said, by a wireless detector invented by one of the young radio men in the United States Bureau of Standards. At once the boys were all interest in the new instrument.

"Gee!" said Roy. "Wouldn't it be great to have an instrument like that that would tell you where the outfit was you were listening to?"

"I wonder if they have one at the government station at Frankfort," said Willie Brown.

"Bet they do," chorused several boys.

"Why not take our hike toward Frankfort?" suggested George Larkin. "Maybe we could see it if they have one."

"Great head on you, George," said Robert Martin. "I move we hike to Frankfort. It'll be nearly thirty miles over and back, but we can do it in a day if we start early."

"Gee! I'm glad I went with the other bunch," said Alec, and everybody laughed.

After a little discussion it was planned to make the hike to Frankfort on the next Saturday. Nothing was to be carried except grub. There would not be time to set up an outfit and communicate with Central City, but Henry thought that perhaps the government operator might let him call Central City for a brief message. Willie Brown was to be at the club headquarters listening for the call from twelve to one o'clock.

In every sense of the word the hike to Frankfort was momentous. It was the longest walk the Camp Brady boys had ever attempted. They were afoot early and filed out of headquarters very soon after daybreak. Johnnie Lee was the smallest boy in the group, and he was told to set the pace. Every hour the boys stopped for a short rest. They made the trip in less than six hours and were in Frankfort long before noon. It was good time for boys of their age.

They went at once to the government radio station. But they found the wireless house vacant. The operators lived close by and Henry went to inquire where they could be found. He was met at the door by a grave-faced woman.

"Mr. Axton is in bed sick," said the woman. "He's suffering terrible. The doctor says it's appendicitis and he'll likely have to go away for an operation."

"Where is Mr. Custer, the night operator?" asked Henry.

"He was called to headquarters on important business," said the woman, "and Mr. Axton was to do double duty for a day or two. Now he's so sick he can't sit at his key and he feels awful. I think part of his trouble comes from the fact that he had to leave his post at an important time."

"Didn't he inform his superiors of his illness?" asked Henry.

"Lord bless you, young man," said the woman. "He didn't have a chance. He was took sudden while in the house here and he was so bad he just couldn't get to the wireless house."

"Maybe I can help him," said Henry. "He knows me. Won't you please tell him Henry Harper is here and wants to know if he can be of any help to him?"

The woman hurried up-stairs. Soon she returned, smiling. "He feels better already," she said. "I could see it in his face. He says to come right up."

Henry found Mr. Axton in great pain. The sick

man was too feeble even to hold out his hand, though he tried.

"Don't," said Henry. "Just tell me what I can do for you."

"Tell my chief I am all in and the wireless is out of commission until Custer gets back." Then an idea came to him. His face brightened. "Unless you can take his place," he added. "Ask the chief."

Henry hurried away to the wireless house. The boys crowded in and gazed at the powerful instruments almost in awe. With a thrill of pride Henry released the dynamo and set the switch. Then he gave the call for radio headquarters. A great spark leaped between the points of the gap and crackled and hissed as Henry worked the key. His companions looked on with wide-open eyes.

"Gee! Ain't she a dandy?" cried Johnnie Lee in admiration.

Almost at once the answer came back to Henry, followed by the query, "Where have you been?"

"This is Henry Harper," rapped out Henry. "Mr. Axton suddenly sick with appendicitis. Bad. Operation necessary. When is Mr. Custer to return?"

"Custer is here," came the reply. "He will talk with you."

In a moment Henry's call came. "This is Custer," said the message that followed. "Tell me about Axton."

Henry gave all the details he could. Then he telegraphed, "Can I be of use?"

There was a long pause. Evidently Mr. Custer was talking to his chief. Then came a message that made Henry's heart beat fast with pride.

"The chief says take Axton's place. I cannot return for several days. Can you be on duty noon to midnight?"

"Will be on duty ten A. M. to two A. M.," answered Henry. "Longer if possible."

"Good," was the reply. "Do you promise not to divulge the messages received?"

"I do," said Henry.

"Get the book of instructions and cipher code from Axton. Chief obliged to you. My thanks, too. Do your best."

There was small need to add that last sentence. Henry was swelling with pride and happiness. The wireless chief was willing to trust him with the government's business. No soldier could have faced his duty on the battle line with more of determination than that with which Henry looked forward to his work for the government. He turned to his comrades.

"The wireless chief has asked me to take Mr. Axton's place for a few days," he said modestly, but his eyes shone bright with pride.

"Bully for you, Henry," cried Johnnie. "That's great."

Just then the clock chimed the half hour. It was twelve-thirty. "We've kept Willie waiting," said Henry. "Now that I'm operator I am sure it will be all right to send him just a word."

He rapped out the club call and Willie answered immediately. Briefly Henry related what had occurred.

"We send our heartiest congratulations," came the reply from Willie, and Henry knew that the other members of the club were gathered in his little shop.

Now the boys began a careful examination of every bit of apparatus. The air was full of enthusiastic ejaculations as they gave voice to their admiration of the shining instruments.

"I wonder what this is," said Charley Russell, pausing before a bulky instrument. He bent forward to read the words on a metal plate attached to the instrument.

"Oh, gee!" he cried. "It's one of those wireless detectors we were talking about."

The boys could only look at it with admiration.

"I wonder how it works," said George Larkin.

"I haven't the least idea," said Henry, "but before I return to Central City I'm going to find out all about it."

Now the boys opened their lunch baskets and fell to with a will. Their long hike had made them ravenous. When they had eaten, Henry gave them a message for his parents. Then the hikers said good-bye, turned their faces toward Central City, and trudged off for their long walk home.

That evening Henry heard his own call signal and knew that some one from Central City wanted him. The boys had gotten home, tired but safe, and had called up Henry to let him know they were back and to say good-night.

Willie Brown was at the key. "I envy you, Henry," he ticked out. "When you come home you can teach us lots and you will have great things to tell us."

It was nearly two weeks before Central City saw Henry again. He could indeed show his companions many things about wireless, but he was silent otherwise. His wireless oath sealed his lips. Yet there were things he longed to tell his companions—govern-

ment secrets, news as to the war situation that Henry instinctively felt would eventually affect every member of the Camp Brady boys. But though he told them nothing, he began to turn the situation over in his mind. Matters were becoming grave. The country was inevitably drifting into war. When it came every soul in the nation would be needed. And Henry thought that a club of boys so well equipped in woodcraft, marksmanship, and wireless ability as were the Camp Brady boys ought to be of more than common use to Uncle Sam. He began to consider how best they could help when trouble arrived.

CHAPTER VI

DR. HARDY COMES HOME

AND trouble was not long in arriving. On the first of February Germany resumed her ruthless submarine warfare, sinking without warning every ship found in a prescribed area, no matter what its nationality or business. At once the United States severed diplomatic relations with the Germans, sending home their ambassador and recalling the United States ambassador from Berlin. Portentous indeed were the messages that nightly flashed through the air, and the Camp Brady boys spent hours at their wireless outfits listening in.

Very serious were the Friday night club meetings now. The situation Henry had foreseen was rapidly coming to pass. War was almost a necessary result of the severance of diplomatic relations. And the wireless patrol was as eager to serve their country in case of war as any boys ever were. They spent long hours in discussing what they could do to help Uncle Sam.

Then the inevitable happened. Congress met in special session and solemnly declared that a state of war existed. At once funds were voted for emergency use and movements were set afoot to put the nation in a state of preparedness. Almost daily the wireless patrol met at Henry's shop to talk the situation over. The boys were all afire to serve the nation. Not one of them was old enough to enlist as a soldier. There was no apparent opening for the employment of their knowledge of woodcraft and camp lore. Apparently their skill with the wireless was the only way by which they could be of use. Over and over they discussed how they might employ that skill.

And even as they discussed the matter there came flashing through the air one night a message that took the heart from every member of the patrol. Willie caught it as he sat in Henry's shop listening in while the others talked. Rapidly he wrote down the message, then turned, with white face, and read to his comrades what he had taken from the air. "The radio station at the University of Pittsburgh has been taken over by the government, and 400 amateur stations in the Pittsburgh district have been closed and partly dismantled."

"Do you suppose the government will close all ama-

teur stations?" said Roy, an anxious look on his face.

"I very much fear it will," said Henry.

"We shall probably know soon," suggested Willie.

And Willie was right. In a very few days orders were issued for the dismantling of all amateur stations. The club came together to discuss the matter. As loyal supporters of Uncle Sam there was but one thing to do—take down their outfits. Twelve boys went home with heavy hearts and almost tearfully lowered their aerials, disconnected their instruments, and put away the outfits they loved so well. But it was no feeling of selfishness that prompted this keen regret. It was the belief that the hope they had cherished of helping their country with their wireless knowledge was in vain. Seemingly their only chance to be of service was locked away with the shining wire coils.

Black gloom descended on the wireless patrol. And their gloom grew the blacker when news came of the unexpectedly early graduation of Mr. Hardy from medical college and his enlistment in the ambulance service.

"We can't use our wireless and we can't have a camp, now that Mr. Hardy has enlisted," groaned Lew, who was looking forward to a renewal of his friendship with Teddy at the Hardy farm.

"We'll find some way to help," declared Roy, who was an optimist. "Can't you think up something, Henry?"

"I had a plan for us to enlist as a wireless patrol," said Henry, sadly, "but that plan isn't of any use now."

May came. Planting time rolled round, and the newspapers were full of suggestions for gardening. Farmers, it was evident, would be needed quite as much as soldiers.

"We can all make gardens in our back yards," said Henry. "That will help some."

And each member of the club at once put his back yard under cultivation. But this little contribution to their country's welfare failed to satisfy them.

Then one day Dr. Hardy appeared unexpectedly at Central City. It happened that the wireless patrol was assembled in Henry's shop at the very moment Dr. Hardy arrived at Henry's house. The doctor learned of the gathering and quietly slipped through the door of the shop.

Roy spied him first and gave a whoop. Then the others saw him, and the roof nearly went off the shop as the boys gave vent to their joy. Dr. Hardy smiled with happiness at this evidence of affection on the part of the boys. And indeed he was a figure to inspire

both affection and loyalty. He stood just within the doorway, tall, straight, powerful, looking every inch a soldier and a hero in his new uniform, his fine face beaming with kindness and joy.

"So you're glad to see me back," he said with a smile, when the noise had subsided, and the boys came crowding about him to wring his hand.

"Glad!" echoed Roy. "We never were so glad of anything in our lives. We need you awful, Dr. Hardy. We've had a terrible time, and we don't know what to do."

"That's the way boys talk when they have the mumps," said Dr. Hardy, pretending to look very serious. "I'm glad I came. Let me feel your pulse," and he playfully caught little Willie Brown by the wrists and swung him clear of the floor.

"It's worse than any mumps," said Roy, sadly. "We can't enlist as soldiers, and we've lost our wireless outfits and can't help Uncle Sam with them. We just can't do anything but dig a little garden." And then he added, after a pause, "And we want so much to help."

"So that's the rub," chuckled the doctor. "You've got the war fever. Well, people do get an uncommonly high temperature when that strikes them."

"But what can we do?" persisted Roy. "We want to help, and we don't believe there's a bunch of boys in the United States any better equipped to help than we are. It's a shame we can't do something."

"You're certainly not troubled with modesty," laughed Dr. Hardy.

"I don't care," retorted Roy. "It's true. There ain't a finer crowd of fellows in the country."

"I'll subscribe to that heartily," said the doctor. "But what's this you were saying about wireless? Have you been dabbling in radio communication?"

"That was to be our surprise for you," said Henry. "We've been working at it ever since we came home from camp last summer and you went back to the city. Each of us has an outfit ——"

"I suppose that's where the money went you promised to save for our camp outfit," said Dr. Hardy, with a smile. "But it doesn't matter, boys."

"Indeed our money didn't go for wireless," said Henry. "We've got the money all ready for our camp outfit. Our wireless didn't cost us anything, hardly. We made our outfits ourselves."

"What!" exclaimed Dr. Hardy. "Made them yourselves? It takes a good man to make a wireless outfit. I didn't know any of you knew anything

about electricity. This is interesting. How did you do it?"

"Henry's responsible for it all," said Roy. "He studied it all up and taught us how to do it. And he's a wonder, Dr. Hardy. He's as good as any government operator."

"I suppose so," said Dr. Hardy, with a quiet smile. "And you are certainly a loyal friend, Roy."

"But it's true," insisted Roy. "And he was a government operator for a time—stepped right in and helped the government out when the regular operator got appendicitis, and the district chief said he hadn't a better operator in the district."

"This is astonishing, Roy. Tell me more about it."

And Roy told his big friend the entire story while Henry tinkered with some tools, obviously embarrassed.

"And we were planning to act as a wireless patrol for Uncle Sam," went on Roy. "But we've had to dismantle our outfits, and there ain't anything we can do."

"Well now, things may not be so bad as you think, Roy," said the camp leader. "I've come home here to see what I could do to help. My ambulance section is held up for lack of ambulances and supplies. It will

be several weeks before we can take the field. It seems to me I can't do anything better than help you boys get ready. This war may last some years. It is going to be a lot more serious than most people think. My father wants to help by raising every ounce of food he can on his farm, but Mr. Robinson writes that he is so short of help that he cannot till more than half the farm. How would you boys like to go back to Camp Brady and do your bit by helping to farm?"

A shout of joy went up. "We'll do anything if we can only help," cried Roy.

"Well, then, we will go into camp at once. We can borrow the same outfit we had last summer and as much more as we want, for the guard got new equipment when they were in Texas and we can borrow their old equipment. I'm sure of that. We'll take along some of the old guard rifles and have a daily drill, too; for before this war is over some of you boys will be old enough to fight, if you want to, and you may have to do compulsory service if the conscription bill passes. Anyway, everybody ought to know how to bear arms."

"Hurrah for the Camp Brady Patrol!" cried Roy. A tremendous shout went up.

"And I've been thinking, boys," went on Dr. Hardy

as soon as he could make himself heard, "about that wireless business of yours. I don't know a thing about wireless myself, but I can see how it might be very useful to us and to the country. What would you say if I tried to get permission for you to have a wireless outfit at camp?"

The roars that had gone before were tame beside the noise that greeted this proposal.

"It oughtn't to be difficult to secure permission," continued Dr. Hardy. "The government will be glad enough to have all the coöperation possible. I'm a regularly enlisted officer in the army ——"

"Are you an officer?" broke in Willie, in surprise.

"Sure," said Dr. Hardy, smiling. "Physicians in the army rank as officers, you know." Then he continued, "Henry is already a government operator. I don't think there should be trouble about arranging that. I'll write to Washington about it to-day. Meantime I'll see Major Rogers about borrowing the equipment from the guard."

"Who's going to drill us?" spoke up Roy, keen-minded as usual.

"What better drill-master could you want than a United States officer?" said Dr. Hardy, with pretended severity.

But Roy saw the twinkle deep in his leader's eyes, and replied, "Army officers are great—when they know their job."

"Well, Roy," laughed Dr. Hardy, "I think this officer will be all right. You didn't know that when I was an undergraduate in the state university I took military drill for two years and am entitled to an officer's commission in the reserves."

Roy opened his eyes wide at that.

"And then there's Henry, too," continued the camp leader. "He went to military school one year and knows a lot about drill. I'll have to make him lieutenant."

Immediately Roy clicked his heels together, faced Henry, and stiffly saluted him.

"And now there's one thing more," concluded Dr. Hardy. "If Uncle Sam gives us permission to have a wireless outfit, we shall doubtless be made a semi-official station. That means we shall have to have a good outfit. We can't palm off any little play outfits on Uncle Sam. How are we to secure this outfit? Perhaps you can think it out, Henry."

"We can buy it," said Henry, quick as a flash. "We can put the money for our camp outfits into a wireless outfit. And we can get a good one, too, with

the money. What do you say about it, boys? We can earn more money for the camp outfit next winter."

The proposition was carried by acclamation. Then followed a cheer for the Camp Brady Wireless Patrol and another for its leader. Then Dr. Hardy hurried away to make his arrangements.

"If we can get the stuff," he said, as he left, "we will go into camp at once. Hustle up and make your arrangements."

In another minute the twelve members of the patrol were flying to their homes to tell the good news and get their camp kits in readiness.

CHAPTER VII

MAKING CAMP

FORTY-EIGHT hours later twelve excited and happy boys climbed aboard the train for Camp Brady, followed by a tall, fine-looking young man in military uniform. A dozen trunks, a number of boxes of provisions, bundles of tents and camp equipment, and some mysterious-looking cases marked "Explosives —Handle with care," were stowed in the baggage-car ahead. As the train steamed along the river and drew near the old familiar landmarks, the members of the wireless patrol could scarcely restrain themselves for joy. Excitedly they called to one another, recalling this incident and that. Gleefully they pointed out the scene of one misadventure and another. And Roy kept the people in the car smiling over his happy sallies.

But through all the fun a serious note was evident. Even their fellow passengers, entire strangers though they were, sensed the fact that these boys were something besides a mere band of vacation seekers.

"What are you boys going to do?" queried one interested onlooker.

"We're the Camp Brady Wireless Patrol," replied Roy, with evident pride, "and we're going to work for Uncle Sam."

"Wireless patrol!" exclaimed the speaker. "You don't mean that you children know anything about wireless telegraphy?"

"Indeed we do," said Roy, indignant at being called a child. "Every boy in the bunch can make a wireless outfit himself. We're going to help patrol this part of the country. And we're going to do lots more than that. We're going to help run a farm, and we're going to drill and learn to fight."

"Well, I never!" exclaimed the man, turning to his wife. "Did you ever hear of anything so extraordinary? Seems as though these boys can do most anything."

Then he turned to Roy again. "Who's the leader of your expedition?" he asked.

"That man there, in uniform," said Roy, pointing to Dr. Hardy. "He's a United States army officer."

"What!" exclaimed the man. "An army officer! Well, you *must* be a wonderful crowd of boys if Uncle

Sam can spare an army officer just now to head your party."

Roy never smiled, but when he told the story to his tent mate later, he said, "I fixed him for calling us children. I bet he thinks we're part of the regular army signal corps."

Just then the train swept around a curve and thundered across the big bridge over the river.

"Oh, gee! Look at the soldiers!" cried Roy, whose quick eye never missed anything. "I'll bet nobody could blow this bridge up while those fellows are on guard."

"Oh, look!" cried Johnnie Lee, as the train reached the other bank of the river. "There are their tents." And then he added, "They don't look half as nice as our tents did last summer."

"Of course not," said Roy.

Just then the locomotive gave a long blast. In a moment more the brakes were applied and the train came to a grinding stop at Muncy. Farmer Robinson was at the station to meet them, and of course Teddy was with him. Mr. Robinson was affected almost to tears at seeing the boys again, for they had won a warm place in his heart when they saved his wheat crop the year before by a savage battle with a forest

fire that threatened to consume his entire harvest. And the boys fell on Teddy and almost pounded him black and blue in their joy at the reunion. Then the duffel was loaded on the great farm wagon, with the cases of cartridges piled on the bundles of canvas where they would ride without shock, and the wireless patrol lined up for their march to the farm, while Mr. Robinson and Dr. Hardy drove slowly after them.

At the farmhouse the boys paused only long enough to give Mrs. Robinson an affectionate greeting. Then they fell into line again and marched on down the river, and turned up the slope toward their old camp ground. But long before they arrived there, discipline broke down and the march resolved itself into a wild race to see who should be first at the old familiar place. Even Alec caught the contagion and raced along at top speed.

The old camp ground was located on a clearing that stood well up a steep slope. It was a wonderful place to see from. The land sloped upward from the bank of the Susquehanna for several hundred yards. Then a rocky wall rose sheer, some thirty feet high, with a cleft in its face through which a narrow path led up to the camp ground above. This was a cleared space of about an acre, and was almost level. On the two sides

the ground fell away abruptly. In the rear the land sloped upward again, ending in a high steep ridge. This ridge and the slope on either side of the clearing was forested; but between the clearing and the river lay only sloping fields. The camp ground was many feet in air and the great valley, with its rolling farms and swelling river, lay in full view. Walling in the opposite side of the valley was a long mountain.

Now the boys scattered to visit the old, familiar scenes. Lew went over to look at the spring he had so skilfully fixed the summer before. He found his reservoir but little damaged, and in a short time had fixed it up as good as new. The lumber for the tent floors was where it had been piled when the boys broke camp the preceding year. Roy and Johnnie had selected the boards for the floors and had piled the lumber when breaking camp. Each board bore the number of the tent to which it belonged, and Johnnie and Roy at once fell to work sorting out the lumber. Then the boys who had carried the boards to the various tent sites once more busied themselves at their old task. Henry saw that everything went right.

The duffel had to be hauled to the camp ground by a wood road that led upward in a circuitous and easy grade. It was some time before the wagon appeared,

and by the time the duffel arrived the floors were laid and everything was ready for pitching the tents.

At once the wagon was unloaded and Mr. Robinson went back to his ploughing, while the boys fell on the load of duffel and soon had the bundle of canvas open.

"I haven't had time to make a plan of our camp as I did last year," said Dr. Hardy, "but I see you remember where the tents belong," and he smiled with pleasure as he motioned toward the waiting platforms.

Willie Brown grabbed the bag of pegs and distributed them just as he had done before. Each canvas was carried to its proper place. The poles were laid at hand. Everything was ready for raising the tents. But there was some extra canvas in the bundle. Henry went to examine it.

"Hello!" he said. "Here are two extra tents. What are these for, Dr. Hardy, and where do they go?"

"One is for the 'arsenal,'" replied the camp leader, with a twinkle in his eyes, "and the other is for—what do you think?"

"Can't guess," said several.

"For the wireless house," said Commander Hardy.

"Oh, bully!" shouted the campers. "Then you got permission from the government to have a wireless?"

"Yes, and I got something besides the permission. I got—what do you think?"

A dozen guesses were hazarded this time.

"All wrong," said Dr. Hardy. "I got the wireless itself."

A shout went up.

"Not a real government outfit!" exclaimed Willie Brown.

"No, not the kind you have seen in a regular United States station, where they have a big dynamo and high masts and all that. But Uncle Sam has sent us the parts for a pretty good outfit—a better outfit, I suspect, than any of you own."

"How did you do it—get permission to have an outfit, I mean?" inquired Willie in open-mouthed astonishment.

"Well," said Dr. Hardy, "it happens that the chief of the radio service is a close friend of my father's. I got him on the telephone, stated the case to him, and told him we could do efficient service for the government. We're to operate as a semi-official station. We're to coöperate with the national guard, which is now federalized, and is guarding important points in the state. The local headquarters of the guard is only a few miles from this camp. We're to have a special

telephone wire run from our camp to the guard headquarters."

"Hurrah!" shouted Roy, who could not restrain himself.

"We're to keep in constant touch with the guard and to take and send any messages at any hour that may be necessary. Then we are to hold ourselves ready to do anything we may be called upon to do. You see I told the chief you were a pretty able crowd of boys. He's a wide-awake official and realizes that boys can sometimes accomplish things men can't do. So you may see some real service before you leave Camp Brady again. Now let's finish making camp."

The tent-raising crew hustled to their stations and one tent after another rose upward and was guyed fast. Nine tents had formed the outfit the preceding year. These had been arranged in three rows of three tents each, situated well toward the rear of the clearing. These nine tents were set up now exactly as they had been before. Then the two new tents were erected in front of the other tents. This put them almost in the centre of the clearing, where they were in plain sight. No one could enter or even approach them without being seen.

It was quite necessary that this should be so. Dr.

Hardy had agreed that the wireless outfit should be guarded sacredly, so that no stranger could approach it. Besides, the rifles and the ammunition in the "arsenal" were a prize that might tempt the dishonest, were there any chance of getting them without discovery.

Hardly were the tents erected before two men, obviously electricians, appeared in camp. They wore wide leather belts on which were suspended pliers, nippers, and other tools for handling wires. One of them carried a set of creepers for climbing trees and poles. They asked for Dr. Hardy.

"The government has ordered us to string a special wire up here. Where do you want it?"

Dr. Hardy indicated how he wanted the wire brought up to the camp ground and where he wanted it to terminate.

"If you want your wire without delay," said the head lineman, "you will have to help us get some poles. It will take the company several days to haul poles here. Couldn't you help us out with some poles from the woods here? They don't need to be either tall or thick for one wire. Almost anything will do."

"How many do you want?" asked Dr. Hardy.

"Twenty-five or thirty will answer."

"Very well. The poles will be ready by the time your gang is ready to set them."

"Lem," said Dr. Hardy, after the men had gone away, "take six of the strongest boys and cut and trim thirty poles. Six-inch saplings will do the least harm to the forest."

Lem chose the boys and soon the sound of axes rang through the woods. At noon the boys filed down to the farmhouse and Mrs. Robinson gave them one of her best dinners. There was nothing too good at Muncy Farm for the boys who had saved the wheat crop. After dinner the patrol marched back to camp.

"Boys," said their leader, "I don't know what we are going to do for a cook. Our old cook, Al Jordan, is working in a munitions factory and it isn't right to take him away from such work, even if we could pay him as much as he gets there—which we can't. It isn't right to ask Mr. Robinson to feed us. I don't know of another person we can get to do the work. Now I've been wondering if we can't feed ourselves. All of you had a trick at helping the cook last summer. How many of you think you know enough about cooking to prepare the food, and which of you are willing to try? It will be a trying task, but it is part of our work for Uncle Sam. Who's willing?"

Twelve voices answered, "I am."

"We seem to suffer from an embarrassment of riches," laughed the doctor. "For the present suppose Lem, George, and Charley try their hands at it."

"My! I'm glad there's a doctor present," said the irrepressible Roy.

That afternoon a special express carrier drove out to the farm and left various mysterious-looking boxes. They were addressed to "Captain James Hardy," and were marked "From the U. S. Government. Handle with care. Rush." Teddy signaled from the farmhouse and a dozen eager boys bore the heavy packages back to camp on their backs. Then they crowded breathlessly around their captain as he opened the boxes and brought forth, one after the other, the shining instruments of a splendid wireless outfit.

The boys almost hugged one another in their joy. Then, at the command of Captain Hardy and under the direction of Henry, they began to wire up the instruments. Next their aerial was made. Near the spring stood two or three very tall trees, the only ones within the clearing. And these were situated exactly right for the aerial. In a short time the shining copper wires were swinging from tree to tree, and the connecting wire had been brought back to the wireless

tent. It was the work of only a few moments to make a suitable ground-connection and couple up to the instruments. These were ranged in orderly fashion on a table in one corner of the wireless tent. A chair stood before the table. On this table were an alarm-clock, paper and pencils, and other necessary articles. Along the opposite wall of the tent was a cot for the operator.

The principal duty of the Camp Brady wireless station was to transmit and receive wireless messages for the local guard headquarters. The station was also to relay messages from other stations whenever necessary. The patrol were allowed to continue their practise, though they were restricted to a very short wave length and were forbidden to use much power. And the station was required to have operators on duty throughout the entire twenty-four hours. The man on duty was required to listen in every fifteen minutes, beginning with the hour. Private outfits were forbidden unless some exigency should call for them. Captain Hardy scarcely thought there would be need of such outfits, but believing in thorough preparedness, he had several of the boys send home to Central City for their outfits. These came in due time, packed all together in a big box, which was stored under the

table in the wireless tent. Thus one guard could watch all the wireless apparatus.

Finally the squad who were preparing poles for the camp telephone line were instructed to cut the tallest, straightest pole they could find in the forest. This was done, and the pole was dragged to the camp ground and set up close to the rock wall at the outer edge of the clearing where it stood out distinctly, rising over the heads of the campers and towering high above the beautiful valley. Then, while the wireless patrol stood at attention, a great banner was hoisted to the top of the pole, and the stars and stripes waved in the breeze. Camp Brady was complete.

CHAPTER VIII

A DAY IN CAMP

IT had seemed to the Camp Brady boys the preceding summer that they were as busy as anybody could possibly be; but now they felt that, in comparison with their present experience, their former stay at Camp Brady had been one long spell of idleness. Discipline had prevailed before: but now they were living under a very different sort of discipline—military discipline. For Captain Hardy insisted that they should be just as truly in training as soldiers are.

Five o'clock saw the camp astir each morning, for the man on guard blew a horn promptly on the stroke of the hour. While the cooking squad were preparing the breakfast, the other members of the patrol had various squad duties to perform. The wood-choppers cut and stacked in a dry place the wood for cooking and the larger lengths for the nightly camp-fires. One squad aired the bedding, cleaned up the tents, and kept the camp ground in order. And the remaining squad saw to it that everything was kept in repair and

that tools were sharpened and in place. Each week squads exchanged duties, so that every boy had an opportunity to try his hand at every sort of task.

At six o'clock the breakfast horn blew and twelve hungry boys came thronging to the table. Immediately after breakfast the dishes were washed, beds made, and the camp put in perfect order. Then the patrol fell into line with their rifles for the morning drill. This was not long enough to tax the strength of the campers, and was followed by a short period of idleness, when the boys were free to do what they chose.

At eight o'clock each day eight of the patrol reported to Mr. Robinson for orders, leaving four men at camp. The cooking squad of three remained and a fourth man to operate the wireless. The telephone line had very quickly been installed, and the wireless station was now in communication with the local military headquarters. It had been planned to have Henry man the wireless for the first few days until things got into good running order; but on the very morning that communication was established with the guard headquarters Henry had to go, with Dr. Hardy, and the other boys, to have a talk with Mr. Robinson. The latter was laying out his work and wanted all the

boys present at this conference so all would understand what he had in mind. And it was especially necessary that the two leaders be present. So Willie Brown, as the second best wireless man in camp, had been left in charge of the wireless tent. Before his comrades had reached the farmhouse, Willie was startled by the violent ringing of the telephone. He answered the call promptly.

"Send this message to the Governor at once," said a deep voice.

Willie seized a pad and wrote down the message. Then he repeated the message over the wire.

"Correct," said the man at headquarters. "Rush it."

The message was in cipher and Willie had not the least idea what it was about; but he thrilled with pride as he sat down at the wireless table, released his dynamo and put his finger on the key. In fact he could not begin sending for a moment or two because of his agitation. All of his dreams had come true. The boy that was too little to fight had made himself just as useful to his country as though he had been able to bear a rifle—perhaps more so.

He thought of the days of Washington when the sending of this message would have meant a dangerous ride of two or three days on horseback through a land

infested with savage Indians and still more treacherous Tories. Now the message could be gotten through safely and in a few minutes of time—provided the operator knew his business. And Willie thrilled at the thought that he *did* know his business. Now he was reaping the reward for all those tedious hours of practise. He was serving his country in a situation that required not only skill but also trustworthiness and self-sacrificing devotion. And Willie resolved that he would prove equal to any task imposed upon him and faithful under all conditions.

Then he took a grip on himself, steadied the hand that had been trembling with the joy of his emotion, and sent the sparks leaping between his gap points, while the dynamo buzzed and hummed. Almost at once came the reply. Then Willie began to transmit his message, cleanly, distinctly, and at good speed.

"Who is this talking?" asked the operator at the capital, when Willie had finished sending his despatch.

"Camp Brady Wireless Patrol," was the answer.

"Never heard of that station before," said the capital operator. "Where is it?"

"Near Williamsport. Just opened," answered Willie. "Patrol in training here. Have special station for use of local guard headquarters."

"Have not received notification about you yet. What's your call?"

"WPB is our official call. You will soon get notification."

"What is your name?"

"William Brown."

"I like your style, Brown. You send very distinctly. Good-bye."

Again Willie thrilled with pleasure. He had been complimented by a professional operator. He wondered what that operator would have said had he known that the wireless man he had complimented was only a boy of fifteen.

Then he thought of the boy Dr. Hardy had told them about the year before—John Burrows, who had carried despatches for George Washington when he was only a lad of sixteen, and who had later owned the very land on which the camp was built. And now Willie tingled all over with joy. For when he had heard that story he had been so self-distrustful that he believed he could do nothing well. And now he was doing as much for his country as young John Burrows had done a hundred and forty years before. Perhaps he might be called upon to be just as brave and daring before the war was over. Willie could not foresee

what was ahead of him, but he made up his mind that, come what might, he would be faithful to his trust.

Meantime Willie's companions were performing their allotted shares of service in the same fine spirit of loyalty. Their leader had inspired them to their best efforts. That was the wonderful quality in Dr. Hardy as a leader. To look at him was instinctively to feel how honest and loyal and kind and self-sacrificing he was. And the boys knew that this big, kindly man, who played with them like a child, and who cared for their injuries as tenderly as a woman, would face shot and shell as calmly as though he were on parade. His very nobility of character made them want to be like him.

So now they put their entire energy into whatever they did, understanding that they were just as truly serving the colors by being faithful in their allotted tasks as they would have been had they been on the firing-line. So the returned cooks were bustling about their tent, laughing and joking as they worked, and rattling pans and dishes so merrily that Willie, on duty in the wireless tent, heard them and smiled with them. And the boys that had gone down to the farm listened very intently as Farmer Robinson unfolded his

plans and showed just what part he expected the wireless patrol to take.

Just now he was hustling to get out a large acreage of corn. Excepting for Teddy and one hired man, he had been without help, and he was behind in his work. But he pointed out how the boys, even though they were not skilled farmers, could aid greatly. Mr. Robinson and Teddy and the man all were ploughing. Between them they could turn up five to six acres a day. Two teams stood idle in the barn. These the boys were to take, and first they were to drag and then to harrow the ploughed ground. And after they had harrowed it in both directions, they were to drag it again and smooth it up for the planter. One of the skilled farmers would do the planting, but the boys could do the harrowing and dragging as well as any one. They could relieve one another as the toilsome walking in the soft earth tired them, and so keep the teams moving.

Then, too, the seed-corn had not yet been shelled. That had to be done by hand so that the kernels from the tips and butts of the ears could be rejected, as they do not work well in the planter. With the ploughs tearing up the soil at such a rate, the boys would have to move lively to keep up.

Following the planting of the corn would come the preparation of land for buckwheat and late potatoes. Then there would be cultivating and hoeing to be done in the corn and potatoes. And by the time the corn was too tall for further machine cultivation, it would be time for the wheat harvest, though there would be some corn hoeing for weeks; for with so many hands at his disposal, Farmer Robinson did not intend to have a single weed in all his acres of corn. The potatoes would have to be sprayed. There was hay to make. Indeed there were enough tasks to keep the wireless patrol busy as long as they could stay in camp.

When the plan for the summer's work in the fields had been laid out, Mr. Robinson went back to his ploughing, leaving the direction of things to Captain Hardy. He at once saw that the extra horses were harnessed and hitched to drag and harrow. Then he showed the boys how to drive the teams so as to do the work in the best manner, for Dr. Hardy had once been a farm boy himself. Then he went off to attend to various matters that needed his care, and later he intended to relieve the men at the ploughs and help the boys with their tasks.

At noon the young farmers marched to camp and stowed away dinner in a fashion that was absolutely

appalling to the amateur cooks. For an hour after dinner there was rifle and pistol practise. Then, much refreshed, the boys went back to their tasks. Willie took his place in the fields and Henry relieved him at the wireless key. They were to work regularly from eight to twelve and from two to six. Eight hours was a pretty good stint for boys of their size, but they were not working continuously, and they declared they could do it easily.

As the sun sank behind the towering ridge on the opposite side of the valley, the stars and stripes fluttered to earth while the wireless troop stood at attention, acquiring a reverence for their country's flag which was henceforth to give new meaning for them to the red, white, and blue. Then, when the glow had faded from the sky, and the winds had sunk to rest, and the stars were peeping out of the blue vault above, and all was hushed in reverent stillness, came the hour they loved best perhaps of all the hours of the day—the camp-fire hour.

Then a match was applied to the pile of wood, ready heaped in the fire ring at the front of the clearing, and the boys, wrapped in their sweaters, gathered in a circle about the dancing flames. The fire ring was not far from the wireless tent, and the man on duty at the

key could hear all that was said and enter into the conversation himself. Sometimes he would listen in and tell his fellows any important news that he had picked up. The previous year the camp-fire hours had been periods of levity, with cock-fights and hand wrestling and other games occupying much of the time. Now there was almost none of that. A spirit of seriousness had descended on this little band of boys; and though they joked and laughed from morning to night, it was evident that they were very much in earnest in the work they were doing. So the talk about the camp-fire mostly centred about their beloved wireless, and about the war and about the part they might play in it themselves.

Frequently Dr. Hardy talked to them, while the flames leaped high, about the things they could do in their daily work and play to prepare themselves for service as soldiers.

"If ever you go to war as soldiers," said Dr. Hardy one night, "you will be engaging in the most exciting game in the world—man hunting. For the quarry you are after is just as able and eager to shoot you as you are to shoot him. So it is not enough merely to be a good shot. You must be a good scout as well. You must be like the bird of prey, which kills frequently

but is itself seldom killed. And no one has a better opportunity to learn to be a good scout, in the best sense of the word, than you boys here at Camp Brady.

"The secret of being a successful scout is to keep your eyes always open. Notice the lay of the land. Mark all particular features of the landscape, like houses, churches, farm buildings, bridges, streams, ponds, swamps, hills, woods, fences, and even telegraph poles. Particularly is it necessary to do this when you are marching and in unfamiliar territory. Get the features of the landscape so firmly fixed in your minds that you carry with you a mental map of the region, so that you can find your way about in the dark, for a great deal of fighting is done in the dark.

"Streams play an important part in modern warfare. Men have to march along them and cross them. Note where they are deep and particularly remember where they are shallow and can be forded. If the water is muddy when the weather is clear, it means that something has roiled it up-stream. Perhaps a dam or a bridge is being constructed by the enemy. And always notice the flood levels. A sudden storm may raise the water and sweep away bridges or other structures built too low. If you must cross a river or pond, cut a staff and feel the bottom before you as you

walk. That will keep you from falling into deep holes and help to support you. With a staff to help you, you can cross a river at night as easily as in the daytime, and you can look before you.

"Don't walk along the bank of a stream you are inspecting. Approach it at right angles, and after a long and cautious survey from behind a clump of grass or bushes, make a loop back from the stream and approach the water again at a distance of, say, one hundred yards. And if you attempt to cross a stream and sink in deep mud, don't turn about and flounder around. That makes it the harder to get out. Draw your foot up exactly in the place you put it down, just as you take a key out of a lock. Go backward until you reach good footing again.

"When you are on the march look for tracks, especially in muddy places, and at gateways and bridges, that will tell whether or not any one has gone before you. Don't enter a thicket or a clump of woods without observing it long and carefully. If you see rabbits hopping along excitedly, or birds hurriedly leaving a wood, or swerving aside from a place where they were apparently about to alight, you may know there is a man or a force of men hidden there.

"Birds see everything. The Indians always watched

the birds carefully when they were scouting. If you see birds flying low and easy, you may know there is nothing about to disturb them. If you see a crow, for instance, suddenly swerve and dart upward in his flight, you may be sure he has seen something that frightened him. At night it is particularly necessary to listen to the birds. You know how hens squawk when disturbed at night. Many small birds do the same thing. If you hear a flock flying up suddenly at night with alarmed calls, you may know something has frightened them—quite likely a man or men.

"I want to tell you an incident that occurred in the Soudan War. A British officer, who was a sportsman, noticed that every evening grouse came to drink at a certain place. They always flew from the same direction. On a certain night no grouse came. The officer noticed it, thought over it, and increased his force of pickets, especially in the direction from which the grouse usually came. The result was that a rush of dervishes was detected and foiled.

"One thing more. Learn to look at a thing so closely that you can shut your eyes and see every detail of the scene you have been looking at. When you acquire that ability, and you are on picket duty, say, and morning comes and you see on the plain before

you a bush that wasn't there the night before, you may know an enemy is behind that bush and probably a machine gun with him. But if you aren't a close observer you will not notice that the bush has come there overnight.

"Now you boys are in an excellent place to learn to be good scouts, which is merely another name for close observers. In leisure moments sit down and look at some object. Study it until you know every feature of it. Close your eyes and describe it. Then look again and see what you missed. Keep it up until your powers of observation are perfect. Notice the direction of the wind, the stars at night, the lay of the land, peculiarities of the landscape, the action of animals and birds. When you can do all this and interpret what you see, you will be just as good a scout as Uncas or the Leatherstocking; for that is as much as they ever accomplished. They saw all there was to see and read the meaning of what they saw."

Sometimes Dr. Hardy read to them about the theory and practise of war. Sometimes they spent the camp-fire hour discussing the proper ways of meeting given situations. So far as they could, the wireless patrol were trying to foresee emergencies that might arise in their work as radio men or later as possible soldiers.

They discussed methods of improvising wireless outfits and of concealing them, in case it should be desirable to have secret stations. They discussed codes and ciphers. They were trying to prepare themselves, while they had ample time for thought, for a trying moment when there might be no time to reason things out. For Dr. Hardy believed in preparedness in all things.

Promptly at nine o'clock the man in the wireless tent sounded the tattoo on a bugle that Dr. Hardy had procured, and in a few moments every boy in camp was in a sound slumber—every boy excepting the one on wireless duty ; for it was part of the agreement that the station should be in service twenty-four hours a day, the operators listening in at least every fifteen minutes, beginning on the hour. When the patrol turned in at nine, a new operator came on duty, and he was relieved at one o'clock by a boy who watched until reveillé.

Ordinarily it might have been difficult for boys of sixteen to watch without sleeping for four hours in the dead of night. But the Camp Brady operators had small chance to become sleepy. The wireless work had increased so that during the daytime two men had to be on duty, for often the telephone and the

wireless were working at the same time. And the necessity of listening in every fifteen minutes in itself would have kept the radio man awake; but the news that was flashing through the air these days was so serious and so interesting that the night operator often sat listening in for a long period of time. Ever more portentous became the news of the war and of internal difficulties. Now another ship had been sunk by a U-boat. Now an attempt had been made to dynamite a bridge. Now a stranger was arrested for tampering with a reservoir. The great ammunition factory was blown up at Eddystone with the loss of nearly one hundred and forty lives. It all went to show that the country was full of disloyal residents and alien spies and agents, bent on the most awful deeds of treacherous violence. Nothing but eternal vigilance could save the country from one disaster after another. Everywhere the guards increased their vigilance; and the wireless patrol daily felt an increasing sense of responsibility resting upon them.

CHAPTER IX

A STARTLING DISCOVERY

TIME passed. The corn land was prepared and planted. The potatoes came up and were cultivated and sprayed. The corn was kept as clean of weeds as a back-yard garden. The hay was made and the wheat harvested.

From an awkward squad the wireless patrol came to be a well drilled little company. They became increasingly proficient in marksmanship, though the rifles were so heavy that the smaller members of the squad, like Johnnie Lee and Willie Brown, found it difficult to hold them level. Particularly did the revolver shooting improve. The practise in pistol marksmanship of the preceding year was now producing results, and the Camp Brady boys rapidly became crack shots. But none of them could shoot like Carl. From a goodly distance he could drive a nail with pistol bullets.

As the summer wore on and the farm labor lessened, the boys had more time for hikes and practise afield. Scouting parties were formed to scour the surrounding

country and report as to the military advantages or disadvantages of the neighborhoods inspected; and each scout was required to make a rough map of the district he had surveyed. The object of this was to make the scouts observant, for they were required to note down the salient features of the landscape.

Roy, as might have been predicted, made a first-class scout. His quick eyes and keen mind caught many things that the others failed to note. And Lew, of course, was an excellent scout. His training in the forest had well equipped him for close observation and careful travel. He could slip through the woods as quiet as a shadow. Teddy was of course at home when afield and he was very observant, too. Now that the rush of work was over, he had joined the campers and was sharing Lew's tent.

The surprise of the camp was the way Willie Brown developed as a scout. Willie had never been a very observant boy. But since Dr. Hardy's first camp-fire talk on the need of close observation, he had been patiently drilling himself to see what was before him. Often he would sit at the front of the camp ground, his feet dangling over the rock wall, and stare at some object for a long time. Then he would close his eyes and try to remember what he had seen.

Roy first discovered what he was up to. "Well, if there ain't Willie painting mental landscapes," exclaimed Roy, when he comprehended what took Willie to the edge of the drill ground so often.

Willie merely grinned and continued with his "painting." Pretty soon he said, "I've been looking at that peak over there. It ought to have a flag on it."

"Bully good idea!" cried Roy. "We'll put one there." And a flag party was at once arranged for the first free day.

"We can't all go," said Henry, "because some of us must stay on duty at the wireless. Why wouldn't it be a good idea to divide our forces? Let half climb the mountain and half stay on guard here. Let's have a regular scouting contest, the game being for six boys to get to the top of the mountain without the others seeing them. Let the scouts cross the river and the game will begin when they reach the other bank."

"Fine idea," cried the boys in delight. "That will be bully fun."

"The hikers will signal their arrival at the top by making a column of smoke," said Dr. Hardy, who had overheard the suggestion. "It's pickets against scouts, boys, and you will get valuable training as either.

Now we shall see how well you have learned to observe and to reason from what you observe."

Lots were drawn to see which boys should stay to do picket duty at camp and which should be the scouts to try to reach the mountain top unseen. Roy, Willie, Henry, Lew, Carl, and Teddy were the scouts, and the other boys the pickets to watch from the camp grounds.

The position of the latter, high in air, with an unbroken view of the entire valley, gave them a very decided advantage. With Dr. Hardy's powerful field-glasses they could see even the poultry on distant farms. For the scouts to reach the mountain without being detected was going to take very clever work.

The two groups of boys drew apart to confer. Henry asked each of the scouts for his idea as to how to reach the goal. Immediately opposite the camp was a patch of woods that ran for some distance straight back from the river toward the mountain. A stream flowed through this woods and beyond the woods it came meandering down from the foot of the mountain through farm lands. It ran through open fields and patches of brush and thicket.

"We can go straight through the woods and follow along the course of the run almost to the foot of the

mountain," said Teddy. "I am sure we can get across or around the open spaces unobserved."

Lew agreed with him.

"What do you think, Willie?" asked Henry.

"I think that what Teddy says is true," replied Willie, "but I think there is a better way. The course Teddy suggests is the natural one, as it is easiest. So they will be watching for us along that course. What we want to do is to take a way where they will not think of looking for us."

"Great head on you, Willie," said Roy, enthusiastically thumping Willie on the back. "You'll be a general some day."

"Your idea is right, it seems to me," said Henry, "but where are we to go?"

"I've studied this valley pretty well——"

"You bet he has," piped up Roy. "He's been sitting on the edge of the camp ground looking at it for a week."

They all laughed, and Willie went on, "I think there is a good way. We can leave the woods by that little side spur of scrub growth, get behind the railroad bank, reach the course of a run a mile or so below, and go right up that. The stream runs through brush and thickets most of its length. At its source we can skirt

that high ground and get into the depression beyond it. That will take us to the woods at the foot of the mountain. Once on the slope, the trees will hide us if we pick our way carefully."

"Bully for you, Willie," cried the scouts enthusiastically. "We'll go that way."

"Then take a good look at the route," suggested Willie, "and try to remember the landmarks. Some of the way we shall have to crawl and we can't stand up to get our bearings."

The scouts took a long, careful look at the country and announced their readiness to depart. Lunches were packed, and the scouts marched down to the river and got into Farmer Robinson's boat. They rowed straight across to the big woods, fastened their boat to a tree, waved a farewell to their fellows at Camp Brady, and disappeared in the forest.

They had entered the woods at its northern edge. As soon as they were securely screened by the trees, they crossed the woods to its southern side. Almost as though by prearrangement, Lew took the lead and the others followed. There was not the slightest chance of the party's being discovered so long as they were under the leafy canopy of the forest; yet Lew proceeded as cautiously as though great care were

necessary. The little brook had dug deep into the soil. Now it was shrunken to a mere rill. Lew led the party along the bed of the run, so that they were hidden by the high banks. At one place only was there a chance that they might be seen. Some small lumbering operation had thinned out the trees at this spot. Though it was hardly probable that they could be seen at this distance from camp, Lew halted his followers at this edge of this tract which had been cut over.

"Follow me one at a time and do exactly as I do," he said.

He advanced through a thicket of scrub-oaks. At its farther edge, he dropped flat and crawled behind a big tree. He rose and cautiously peeped from behind the tree, locating the exact direction of the camp. Then he picked a second tree and stole toward it, making sure that he kept the first tree between himself and the pickets at camp. In a moment more he reached the dense cover of the uncut forest. The others followed one at a time. It was good training for what was to come. They soon reached the end of the woods. They were perhaps a mile and a half from camp.

"Here's where they will watch for us," said Lew.

"They will expect us to sneak across this bit of open ground for those thickets farther up the brook. We'll follow Willie's plan and go off at a right angle."

They entered the scrub growth they had selected, proceeding cautiously along the side farthest from camp. At the end of the scrub their cover ended except for the tall weeds that had grown up.

"What are we going to do here?" asked Carl.

"Crawl," said Lew. "We're going to make for that culvert that goes under the railroad. We'll go one at a time and wait till the wind blows hard. Then all the weeds will be waving and if we shake the weeds it won't matter so much. But crawl right in my path. I'll open a way."

Suddenly the breeze freshened. "Now's your time," said Carl.

"Wait," said Willie. "There are crows along the railroad. Wait until they fly away."

"Good boy!" said Lew. "I saw them, too, and I wondered if any of the others would notice them."

Just then the crows rose and flapped off toward the woods silently. "If we had crawled near them," said Lew, "they would have flown up excitedly with a loud cawing. Probably the pickets at camp couldn't have heard them, but with that glass they could have seen

them. And if they know anything about crows, they would at once have guessed we were here."

There came a sudden, powerful gust of wind. Carl dropped flat and wriggled his way rapidly through the weeds. These were dancing in the breeze and the motion he made among them was not noticeable. One after another the boys crawled through the little tunnel Lew had made through the reeds.

"I'll bet a dollar they haven't seen us yet," said Henry.

Now the six boys, still in Indian file, walked swiftly along behind the railroad embankment, crouching as they went. It was impossible for the pickets to spy them as they kept their heads low.

They reached the little stream Willie had pointed out from the camp ground. It was only a tiny brook, but its course was marked by a veritable thicket of tag-alders, elders, and other swamp growths.

"The best way to proceed here," said Lew, "is to go right up the brook." The boys were wearing old shoes and they stepped into the water. "Nobody can possibly see us through this screen," said Lew, with satisfaction. "You chose a good way, Willie. The only chance of betraying ourselves is by frightening up a flock of birds. We must be careful about that. Look sharp ahead and upward."

For a mile or two they followed the tortuous bed of the brook. At one or two places the screening thickets had openings in them. Here the boys lay prone and slowly wriggled their way across the openings, taking advantage of every bit of concealing bush or weeds. The Leatherstocking himself could hardly have made a more stealthy trip.

Now they came to the little rise in the ground that they had noticed from camp. Here was the pinch. If they could get over or around this undiscovered, they were almost sure of victory. On the far side of this eminence lay a dark ravine, thickly shaded, that led directly to the mountain.

"I wish I could get out and take a look at things," sighed Lew. "If we just knew the exact lay of the land we'd be all right."

"I can tell you how it lies," said Willie. "There's a deep gully along this edge of the hill. There are three apple trees along the gully. Farther on is an old rail fence. Then there is a thicket. Once we are in that, we are safe. It will hide us until we get behind the hill."

"Gee whiz! Willie," said Roy, "how do you know all that?"

"That's one of those mental landscapes," laughed Willie. "But I'm sure it's correct."

"If it is," said Lew, "what we need is something to screen our movements while we are reaching the gully."

"There's a little clump of trees to the right of our position," said Willie. "We can get into them easily. And if we crawl behind them, they can't see us from camp."

"Some scout!" ejaculated Roy, this time in real admiration.

The party made their way to the edge of the thicket. It was just as Willie had said. They slipped into the clump of trees.

"Now it's a case of crawl again," said Lew. "So follow my trail."

He began to wriggle over the open ground, turning every few feet to make sure that the screening trees were between him and the camp. Then suddenly he disappeared in the gully. The others followed. They passed on down the gully, found the apple trees and the fence, and came to the last thick cover. In a few moments they were safe in the ravine.

This led up the side of the mountain. Dense hemlocks grew in it and no mortal eye could have seen the party underneath them. They passed to the head of the ravine and began their scramble upward. From

rock to rock, from tree to tree, prone behind stumps, gliding along fallen logs, they advanced toward the summit. Lew led them in a circuitous route, rather than directly toward their goal. Along the crest of the ridge lay rows of giant boulders. Behind these the immediate approach to the crest was easy. Had they come directly up the slope they would have run the risk of an eleventh hour discovery; for the camp pickets would certainly have shifted their gaze to the mountainside by this hour.

Now they came to the very summit. A tall, dead pine stood here, that reared its head high above the surrounding trees. It seemed made for a flagpole.

"We'll send up our smoke," said Lew, "and then break out the colors."

In a moment they had a fire going. They heaped moss and wet sticks on it, and Henry and Carl held their coats horizontally above the fire to collect a great cloud of smoke, as the Indians did in signaling. Then suddenly they drew their coats aside. A great ball of smoke shot upward. At the same time Lew scrambled up the pine, broke away the dead branches at its top and fastened the colors there. In a moment the stars and stripes were streaming in the wind while the scouts cheered.

"Now we'll watch for their answer and find out who won," said Henry, for signals had been agreed upon before the scouts left camp.

"There's the first smoke," cried the sharp-eyed Roy, as a ball of smoke like their own shot upward. "I wonder if there'll be another?"

They watched, almost breathlessly; for two columns of smoke was the signal agreed upon in case the scouts had gained their goal unobserved.

"They saw us," said Willie dejectedly, as no second smoke arose.

"No, they didn't either," cried Roy. "Look!" His keen eye had caught sight of another mass of smoke. He was right. In a second another ball of smoke shot up from the camp ground. "Hurrah!" cried Roy. "We beat 'em!" And then generously he added, "And it was Willie's mental landscapes that did it!"

The camp-fire was burning like a great beacon, as indeed it was meant to be, when the tired lads got back to their boat and rowed across the river to Camp Brady. High up in air they could see the flames leaping, lighting up the white tents and the figures of the wireless patrol in the clearing. Henry gave the camp signal and a welcoming shout from the hillside came ringing

through the dusk. The scouts were warmly greeted by their comrades, and the day's adventure was discussed over a hearty supper.

"How did you fellows ever get there without our seeing you?" demanded Alec. "We watched every foot of ground between the river and the mountain."

"Where did you watch?" asked Roy.

"Why, the patch of woods and the bushy course of the run, of course. You didn't expect we'd watch the open fields, did you?"

Roy explained how the journey had been made. "It was Willie's idea to go that way and fool you," said Roy, "and Lew led the way like a real Indian."

"Well, you hustle off to bed as soon as you've finished that biscuit," laughed Dr. Hardy, "for at one o'clock you've got to play Indian yourself. You go on wireless duty then to relieve Alec."

It seemed to Roy as though he had only just lain down when Alec shook him by the shoulder. Roy got up and dressed sleepily. He stumbled over to the wireless tent, not more than half awake, mechanically put the receivers to his ears and began to listen in. There was no call for him. He wrote down a war despatch to tell his comrades in the morning. Then he went out

into the night and took a few turns about camp to rouse himself.

The chill of the night air, the movement of his body, the lure of the starry heavens, the soft, faint noises in the forest, all served to chase away the drowsiness, and Roy returned to his tent wide awake.

For two hours he read and listened in at the quarter hours. The night was without interruptions. Few messages were in the air. Roy became very sleepy again.

Three o'clock came. Roy yawned, put the receivers to his head, and began to shift his coupler, so that he might hear messages of different wave lengths, if any were in the air. Almost at once he caught a call. "WNT—WNT—WNT NDA," it came. The call was barely audible. Rapidly Roy tuned his instrument until he could hear distinctly, though the signal was still weak. Promptly came the response from WNT. Then NDA began sending. Mechanically Roy reached for his pencil and pad and wrote down the message. Had he not been so sleepy, Roy might have wondered that such a message should be sent at three in the morning. But he was too drowsy to think.

After copying the message, he rose from the wireless table and took another turn around camp to rouse him-

self. Again he returned to the wireless tent. A breeze was blowing in at the open door. The papers on the table were fluttering about. Roy piled them in order and looked about for a weight to put on them. His eye fell on the end of a crate that had come around one of the wireless instruments. It was made of two-inch slats. Roy picked it up. He read the message he had written down. It ran thus:

"Will be home soon if winds blow our way. Up by the dam they sure bore against one. Nearly all work done. Can you send us milk powder? Need some."

Roy smiled as he laid the piece of crate on the papers. "Some ship, I suppose," he muttered, "that has had head winds and has run short of provisions."

Then he went out into the night again to take another turn about camp. When he returned he once more adjusted the shaded desk light so that he could see to read. The wireless table was in darkness. At the quarter hours he listened in. Nothing occurred to interrupt his reading. At five o'clock he shut up his book and picked up the bugle to sound the reveillé. It was now light within the tent.

As Roy bent over for his bugle his eye glanced at the pile of papers underneath the piece of crate. The

only parts of the message Roy could read were the words visible between the slats. He stood as one suddenly turned to stone, his eyes fastened on the paper before him. Staring up at him between the slats were these words:

CHAPTER X

THE FIGHT FOR PROSPECT HILL

FOR a full minute Roy stared at the message. The words burned themselves into his brain. "Will soon blow up dam. Bore nearly done. Send powder." That was the real message. By sheer accident Roy had caught a message in code and stumbled on the method of deciphering it; for the slats in the crate covered up two of each three words in the message, and by chance the crate had been so placed that it left visible only the significant words. Roy removed the crate and read the innocuous message about the winds. Then he put the crate end back and reread the real message.

Danger was in the air. Treachery was at work. A foul plot was going on. Somebody was undermining a dam to blow it up. Where was it? What would follow when it was blown up? Would it be merely some little mill-dam, or would it be the wall of some great reservoir, the breaking of which would wipe out

a city and result in another catastrophe like the Johnstown flood? Roy trembled at the thought.

Seizing crate end and paper, he ran at top speed to the leader's tent. "Read that," he cried, as he burst through the tent door, forgetting his manners in his excitement.

Dr. Hardy took the paper and read it. "Well?" he said, puzzled obviously.

"Now read it," said Roy, laying the crate end on the paper.

Dr. Hardy jumped to his feet. "Where did you get this, Roy?" he demanded.

"Picked it up in the night."

"Why didn't you tell me about it sooner?"

"I didn't know about it until just now," said Roy. "I thought it was only an ordinary message until I happened to lay this crate end on it."

"This is a very good piece of fortune, Roy," said Dr. Hardy. "Something very bad is afoot. It may mean a great disaster. We must prevent it if we possibly can. When did you pick up this message?"

"At three o'clock, sir. I was listening in on the hour."

"Three o'clock? Why, that is the hour the great radio station at Nauen, Germany, begins to send out

code messages. Don't you remember we read about it at the time the secret service uncovered a hidden wireless station on the roof of a German sympathizer's house in Fifth Avenue, New York? But this can't be a message from Germany, though it may be by Germans. Tell me more about the receipt of the message."

"I can't tell you much," said Roy. "I was so sleepy I could hardly keep my eyes open. I copied this down just to keep myself awake."

"Did you get the call signals of the persons talking?"

"Yes, sir. The message was sent by NDA to WNT."

"Have you looked them up in your list of stations?"

"No, sir." Roy ran and got his list. "No such stations listed," he said, after a careful search.

"Just what I thought. These are secret stations. Have you any idea how far the messages came from?"

"No, sir. But it was a very weak message."

"Do you remember the wave length?"

"No, sir. I slid my coupler in and out until I could hear best, but I don't remember what the wave length was. I was awfully sleepy, Dr. Hardy."

"I'm not reproving you, Roy. You have done a very great service in catching and deciphering this message."

"Roy," said Henry, who shared Dr. Hardy's tent, "did that message sound like a local message or one from a distant high-power station?"

"It didn't sound like Arlington or the Brooklyn Navy Yard," said Roy. "It was more like our own instruments."

"Then the sender could not have been many miles away. Where is there a dam near here?"

"We can soon find out," said Dr. Hardy.

He stepped to the telephone and called the commandant at the guard headquarters. "We have discovered something that seems important," he said. "I don't want to talk about it over the telephone. Please come to our camp at once, and bring your military maps."

In less than three-quarters of an hour Colonel Ware was seated in Dr. Hardy's tent. Dr. Hardy set forth the situation. Maps were spread on the table and a close scrutiny made of them. There were many little dams near at hand, but no really large ones. Yet within a radius of one hundred miles, working day and night to equip the army, there were many goodly

cities, which had large reservoirs of impounded water up in the hills. The breaking of any one of these reservoirs would cripple an entire city for months and bring an awful catastrophe.

"The first thing to do," said Colonel Ware, "is to notify the state authorities. The next is to discover where that message came from. I'll have to depend upon you to do both. I can't get an extra man of any sort, and every department of the government already has its hands full."

He picked up a pad and wrote a message in cipher. "Send that to the Governor," he said.

Henry took it and went over to the wireless house; and within an hour of the time he sent the message, orders had gone out to every guard in the state to watch dams and reservoirs with increased vigilance. There came also a message from the Governor asking for more information, but the wireless patrol could not supply it.

The instant Colonel Ware took his departure, Dr. Hardy sent for Willie. "Read that," he said, laying Roy's message before Willie.

Willie glanced at the message and then at Dr. Hardy.

"Now read it," said the latter, laying the crate end on the paper.

Willie's eyes opened wide. He looked up in amazement. "It's a code message," he said.

"It is. Roy caught it last night. Now it's up to us to discover who the sender of that message was. The message was sent to WNT and signed by NDA. There are no such stations in the government list, so these must be secret stations. I want you, Willie, to go to the wireless tent and listen in until noon. Don't take the receivers from your ears. Your breakfast will be sent to you. Keep tuning to various lengths and try to catch everything you can. But particularly be on the lookout for the call signals I have given you."

Henry spoke up. "Roy says the message was weak and sounded like a local message, Willie. If it was, a short wave length was probably used. Now that amateur plants are forbidden, there are few messages sent with short wave lengths. Three hundred meters is the minimum length for land and ship stations and the government stations use long wave lengths. By choosing a short wave length the sender of illegal messages would run less risk of detection. I suspect this message was sent in a very short wave length. So watch for short wave length messages."

Willie went off to his task as jubilantly as though

he were going on a picnic. To sit at a wireless desk and listen in constantly for five hours was a trying job. But Willie throbbed with joy at the prospect. He was really serving his country now. He was going to do something no mere soldier could do. And if he succeeded, he might save the government from embarrassment and he might prevent the murder of scores of people. No wonder his heart beat high with resolution to do his best, and with pride at the thought that he had been chosen for this task instead of some other boy.

While Willie was doing his best to justify Dr. Hardy's confidence in him, Dr. Hardy and Henry and Roy were continuing their council of war.

"Is there any way you know of," said the leader, "by which a station can be located when it talks?"

"Yes, sir," replied Henry and Roy in a breath. "With a wireless detector."

"What is that?"

Henry explained.

"Can we get hold of one?"

"I don't think so," said Henry. "At any rate not in time to be of use to us. That dam is going to be blown up soon."

"Do you know anything about this detective machine?"

"Yes, sir," said Henry, modestly. "I think we can make some ourselves. We shall need two so as to get the direction of the sending station from two different points."

"Oh! I see," said Dr. Hardy. "Then we work out the location by triangulation. I can help you there."

"If we have to use two stations," said Roy, "we'd better get another one up."

"Roy, you've a good head on you," said Dr. Hardy. Then he turned to Henry. "Where should we put this other station?" he asked.

"I think it ought to be at quite a distance, so that we can be more certain of our angles. Suppose we put the other station three miles away."

"Very well. I'll put you in charge of that, Roy. Take one of your own outfits and put it up carefully. We'll see where it should go."

He took a contour map from his drawer and set a pair of compasses by the scale. With the camp as a centre, he drew a circle. Every point on the circle was exactly three miles from camp. Henry studied the map closely.

"I believe this will be the best place for the other station," he said, indicating a knoll three miles to the

north. "Take along your outfit, Roy, and if you need help to get up supports for the aerial or for any other purpose, send us word. You can fasten your aerial up temporarily and communicate with us."

"Take all the boys except Willie and Henry," said Captain Hardy, "unless," and he turned to Henry, "you need assistance here."

"You and I can do the work here," said Henry. "Let Roy have them all."

The wireless patrol was summoned and Dr. Hardy laid the situation before them. Then he put them under Roy's orders, and after a belated and hurried bite to eat, the boys got one of their own outfits from the wireless tent and marched off laden with tools and materials. Roy led the way, with Dr. Hardy's map in his hand.

Avoiding obstacles, the party made their way as directly as possible to the chosen spot. It was a rounded knob perhaps two hundred feet high. Save for a few scattered trees, it was bare of timber. Cattle pastured on it and the grass was as closely cropped as a lawn. In many respects it was an ideal place for a wireless station.

The party at once examined the trees to see if two could be found that would serve as supports for the

aerial. Immediately on the crest of the knob were two tall, straight trees, but they were at least one hundred and twenty-five feet apart.

"We can put a length of wire on our ropes," said Roy, "and stretch between these trees all right. And we shall not have to cut any limbs either."

At once Robert Martin and George Larkin shinned up the trees, attached the pulleys for the aerial, and rove the ropes through them. Meantime the others unwound the coiled wires of the aerial itself, attached them to the spreaders, and soon had their antennæ dangling between the trees.

At this juncture the owner of the pasture appeared. He looked angry. "What are you boys doing here?" he demanded gruffly.

"We're putting up a wireless station," said Roy, politely. "We belong to the wireless patrol at Camp Brady, and it became necessary to have a second station for a few days."

"Well, you can't have it on my land," said the man angrily. "So get your traps out of that tree and get out of this."

"But we are an official government station," replied Roy. "We are here at the command of a United States officer."

"You're a pack of young liars," said the man, growing still more angry. "You're just experimenting with this here wireless telegraphy and you like this hill because it's high. You needn't think I'm fool enough to think the government would be sending out a parcel of young imps like you to do its business. So get out and get out quick!"

The man's demeanor was threatening. Alone, Roy would undoubtedly have been frightened away. But he had ten boys with him, including such husky lads as Lem and Teddy and Alec. So he replied, as politely as he could, "I have told you the truth. We are here by government order. No other place will answer, for we were told to put our station on this very knob. If we do any damage, the government will pay for it."

"Get out!" shouted the man, utterly enraged. "Get out!"

He advanced toward Roy threateningly. The boys drew together in a group, grasping their tools. Carl stepped out in front of the others and drew his pistol.

"We are not going to be driven out," said Roy stoutly. "We shall carry out our orders."

The farmer, seeing he could do nothing, turned away. His face was black with rage. "I'll see

whether or not you won't get off my land," he thundered. "I'll turn my bull out here, and we'll see what happens."

"If you turn your bull in this pasture, and he attacks us," spoke up Carl, "I shall shoot him. I give you fair warning."

The farmer went hurriedly down the hill.

"Couple up as quick as you can," said Roy.

The boys fell to with their nippers and the outfit was ready for use in no time. Roy knelt on the ground and put his fingers on the key. "WPB—WPB—WPB CBK," he flashed.

Willie, listening at the camp tent, caught the first call, and at once answered.

"Tell Dr. Hardy," rapped out Roy, "owner of field orders us off. Told him who we were and warned him. He is going to turn his bull on us. We have threatened to shoot bull. What shall we do?"

"Shoot to kill," came back the answer after a considerable interval. "Don't let anything interfere with your work. Will have farmer arrested."

And almost before Roy had repeated this message to the others, Dr. Hardy had telephoned to Colonel Ware, and a squad of soldiers were flying toward the hilltop station as fast as a motor-car could take them.

At once the boys began to set up the tent they had brought. But the work was not half finished before Teddy cried out, "Here comes the bull."

"What shall we do?" asked the others, for they knew little about cattle.

"We've got to keep that animal away from this tent," cried Roy, his eyes flashing, "or he'll smash our wireless."

"Then come on," said Teddy. He picked up a large stone and started down the hill. The others followed. "If he's vicious, he'll attack us," said Teddy. "If he charges, we'll have to go up these trees. But we can keep him running from tree to tree and keep him away from the tent. Scatter out and don't let him get you."

Teddy went straight toward the bull. The only boy who went with him was Carl. He had his pistol in his hand. The beast did not leave them long in doubt. He gave a snort, pawed the earth, and came rushing toward them.

"Get into your trees," shouted Teddy.

The boys ran for the trees. Teddy stayed behind and the bull made for him. Teddy ran toward the tree to which Carl had fled. But Carl was still on the ground.

"Hurry up," said Teddy, catching a branch and swinging himself upward.

Instead of complying, Carl stepped behind the trunk of the tree, only his right arm and head showing. The bull came straight on. Carl raised his arm, took quick aim, and fired. The bull halted the least bit and rushed on again. Again Carl fired. This time the beast went to his knees.

"Come up, quick!" yelled Teddy.

But Carl raised his arm for a third shot. Before the bull could get on his feet again, a rifle was heard and the sound of a bullet was plainly audible as it struck the bull, which fell prone.

All eyes were turned toward the farmhouse. The farmer was in the hands of two men in uniform, who had evidently taken a shotgun away from him, while two other soldiers were leveling their rifles at the still struggling bull. A third was reloading his rifle. Roy's message had done the trick. The timely arrival of the soldiers had saved the boys from something worse than an angry bull, for as the soldiers entered the farmyard, the farmer was just starting up the hill with a shotgun in his hand.

The farmer was handcuffed and left under guard. The lieutenant in charge of the squad came up the hill with some of his men.

"We certainly are obliged to you," called Roy,

scrambling down from his tree. "I believe that old fellow was mad enough to do anything."

"He was going to shoot you," said the lieutenant, "but he won't trouble you any farther. He'll go to jail for a few months."

They examined the bull, which now lay quiet. It was dead. The sharpshooter's bullet had gone through its heart. Carl's bullets had struck the beast's bony forehead and glanced off, but they had struck as true as could be. They had momentarily stunned the beast.

"Young man," said the lieutenant, turning to Carl, "you're some marksman. I wish I had you in my company."

"We're never going to let him get out of the wireless patrol," said Roy. "You can't have him."

They said good-bye. The soldiers went back to headquarters with their prisoner. The boys finished their task. Then Roy made a full report by wireless to his superior.

The latter and Henry, meantime, had been as busy as two bees. With some long pieces of wire they had made two great triangles, fastening one within the other, with their planes at right angles to each other. The wires were insulated from each other at the tops

of the triangles and the insulators hung on stays fastened to a wire attached to two trees. In the centre of the bases were coils mounted on a cheese box. These coils were fastened at right angles to each other, like the wire triangles above. At the centre of each was a variable condenser for tuning the triangular aerials to different wave lengths. Henry made a wooden device which moved the condensers simultaneously. The inner or exploring coils were mounted on an upright spindle so they could revolve. The terminals were joined to a carborundum detector and the telephones in the usual manner.

This apparatus was already assembled when Roy began to send his message about the soldiers. Henry had just strapped the receiver to his head to pick up some message and test his detector. He chanced to catch Roy's signal. He called to Dr. Hardy to keep Willie from answering, and rapped out a reply himself. Then as Roy began to send his message, Henry slowly spun the exploring coils around and listened intently. Again and again he tried it, and every time the message came most clear and distinct when the plane of the exploring coil was directly in line with Roy's station. The apparatus worked perfectly. It pointed straight toward the sending station.

"Send all your crew home excepting Carl and Teddy and yourself," wired Henry when Roy had finished his message. "See that no one interferes with your station."

Then he got together the materials for another detector. The boys from the other station soon reached Camp Brady. Dinner was prepared and eaten. Willie Brown was put to bed in order that he might go on duty again that night, for the patrol's best men would be needed then. Taking Lem and Jimmy with him, to help carry the wireless materials, a few furnishings for the tent, and dinner for the boys at the other station, Henry set off for what the wireless patrol were already calling Prospect Hill, though the irrepressible Roy had insisted that it should more properly be named Bull Run. Before supper time the second detector had been made and strung up on Prospect Hill in place of the original aerial, and Henry had returned to Camp Brady. Everything was ready for the long vigil.

CHAPTER XI

A VIGIL IN THE DARK

FOR by this time it seemed certain that the three o'clock wireless communication of the plotters must have been prearranged. The fact that the person called had answered the call signal so promptly was almost proof of that fact. Furthermore not a word had passed between the two parties all day long. So, although an uninterrupted watch was being kept, the wireless patrol really did not expect the secret stations to converse again until three o'clock the next morning.

But everything was in readiness for the long vigil from dusk to morning twilight. At Camp Brady Henry was ready to sit through the night at his detector, listening. On Prospect Hill Willie was at the other detector, listening. At the regular camp station Lew sat with the receivers strapped to his ears, listening. All through the night Willie and Henry must sit and listen unrelieved. Should the secret stations talk, it was imperative that they be located.

And it was equally necessary that the best two operators in camp should be at the detectors.

The feeling that came to Willie, as he sat down in the tent for his long vigil, was different from any emotion he had ever before experienced. In addition to the throb of joy and pride at the confidence reposed in him, was a feeling of exultation, a surge of sober self-confidence. Willie knew in his heart that no one, not even Henry, would do the work any better than he was going to do it. With that exultation was a feeling of serious responsibility that Willie had never felt before. The safety of human life might depend upon how well he did his work. For the first time in his life Willie knew the real joy of service to others.

And Henry, of course, was scarcely less conscious of the same emotions. But with him it was different. He had always been self-confident, a boy of helpfulness, a leader. Indeed Henry owed his leadership of the club to the fact that he was always serving the crowd—always planning things and doing things for them, just as he had thought up the plan for the wireless club and patiently learned how to make an outfit.

So now these two boys watched through the night, absolutely forgetful of self, and hoping only that they might save the people who were in great danger from

death at the hands of a traitor. Lew, at the regular station, shared this feeling, as indeed did every lad in the camp. Each was willing to "do his bit" in the way in which he could be most useful. Not a boy felt envious of his fellows at the wireless keys that night.

And each had his share in the night's work. Roy and Carl and Lem and George and Jimmy had been sent to Prospect Hill to guard the wireless. There was no actual fear of hostile acts, but after the encounter with the farmer it seemed best to be prepared. His sons might be inclined to make trouble. So Captain Hardy ordered these boys to guard the Prospect Hill station. And every one of them carried his pistol when he left Camp Brady. A tent and some blankets were taken along, and some food and a dish or two to cook with. Coffee and sandwiches would be very welcome during the long vigil.

The last ray of sunset faded from the sky. The glowing bank of clouds above the western mountains turned from gold to gray. One by one the stars pricked out. The wind fell and only the gentlest zephyrs stirred the leaves. Whippoorwills flitted here and there, startling the night with their eery calls. Through the darkness bats flitted noiselessly. Frogs croaked. The world was hushed. And the watchers

on the two hills, like Paul Revere waiting for his signal to mount and ride, "felt the damp of the river fog, that rises after the sun goes down."

But though the air was quiet, it was feverish with activity. Wireless messages were speeding through it like countless shuttles in a giant factory. There were messages from ships at sea, faintly heard. There were messages from land stations near and far. There was talk by high powered commercial and government stations.

"That's the Brooklyn Navy Yard," said Henry to Dr. Hardy. In tuning he had caught part of a message without hearing the call signals. "I know the shrill whine of its rotary spark-gap." And after a time, he said, "Frankfort is talking. That's Custer at the key. He always drags his S so that you think he is making an O." And after another pause he added, "There goes Arlington. Witherspoon is talking. I met him when my uncle took me to the station. He's the fastest operator in the United States service."

"How do you know it's Witherspoon?" asked Dr. Hardy, much interested.

"He has a trick of rushing his messages and then making a pause for the other fellow to catch up. He can go fast so easily that he forgets, and then has to

check himself every little bit. Almost every operator has some such trick by which he can be identified."

For a time they sat in silence. Suddenly Henry said, "We're in luck to-night. I can hear every sound as distinctly as can be."

"Better than at other times?" inquired Dr. Hardy.

"Much better," said Henry. "You see wireless works better one time than another and usually better at night than in the daytime."

"Why do you suppose that is?"

"Well, I don't exactly know. But I can tell you this: sound carries better just before a storm, when the air is damp and heavy, and the night air is more like a storm atmosphere than the day air is. I know a carbureter works better by night, too."

"I suppose," reflected Dr. Hardy, "that the air is more homogeneous when it's saturated with moisture—if you understand what I mean."

"I guess so," laughed Henry, "though those are pretty big words. Hello, there's an interesting marconigram."

He listened and the smile faded from his face. Reaching for a pencil, he began to write rapidly. Dr. Hardy, noting his serious face, looked over his shoulder and read these words—the first of a long despatch:

"The great reservoir in the Pine Mountains in central Pennsylvania was partly wrecked to-day by the blowing up of a portion of the dam. A man slipped through the sentry line and reached one end of the breastwork of the dam before he was discovered. A guard ordered him to throw up his hands. Instead he dropped on his knees and lowered a package, now known to have been dynamite, behind the dam. The guard fired and the man took to his heels. A moment afterward there was a loud explosion. In the excitement the man escaped. A hole was torn in the end of the breastwork. A great stream of water began to flow through it, but the guard quickly opened the flood-gates and lowered the water, thus saving the dam.

"News of the dynamiting spread like wild-fire. When Eagle River, the impounding of whose waters makes the reservoir, began to rise, the inhabitants of Eaglevale were panic-stricken, expecting a catastrophe similar to those which wiped out Johnstown and Austin. But the stream rose only five feet and did not get outside its banks. The guards promptly telephoned to the town officials as soon as the water was under control, and the panic was stopped.

"The prompt action of the guard probably saved

our state from another awful loss of life and great damage to property. Eaglevale is the site of some large factories, which are now engaged in making supplies of various sorts for the government."

"Thank God!" said Dr. Hardy, when he had finished reading the message. "Somebody stopped them even if we didn't. If that guard hadn't been watchful, the miscreant would have blown out the entire end of the dam and Eaglevale would have been wiped out. They got the powder to him quick, didn't they? But perhaps we had something to do with it after all. If we hadn't caught the message, the Governor wouldn't have ordered the reservoir guards to be especially vigilant. Perhaps the wireless patrol had quite as much to do with saving Eaglevale as that guard did." He gave a deep sigh. "Thank heaven the plot failed," he said. "I think we can rest easy now. But we'll keep up our wireless watch just the same. That fellow may report to his superiors. They might even plan a second attempt. And anyway we may succeed in locating them so they can be caught and punished."

The tenseness that had settled down on the camp at the beginning of the long vigil disappeared. All evening the camp-fire had been deserted, the boys gathering about the wireless operators as though drawn thither

by powerful magnets they could not resist. Now the normal atmosphere descended again on Camp Brady. Communication was opened with Prospect Hill. Everything was quiet there. Willie had caught the message about the dam and the boys with him were as much relieved as were their comrades at camp. With nerves relaxed again, all the boys began to grow drowsy. Discipline had been forgotten for the evening and bedtime was long past. Now the patrol began to seek their cots.

At ten o'clock the Arlington time signals were caught and Captain Hardy set his watch. Then Henry took the weather forecast that follows the time signal. "USWB DB 94686," he wrote on his pad.

Dr. Hardy had not previously seen a weather forecast. "I can understand the first four letters," he said, "for they probably stand for United States Weather Bureau. But the rest stumps me completely."

Henry chuckled. "You are right about the USWB," he said. "The next two letters indicate the point for which the report is made—in this case Delaware Breakwater. Forecasts are also furnished for Sydney, Nantucket, Hatteras, Key West, and other Atlantic points, and for all coasts. Each station has its particular letter."

"But what are all these figures?"

"The first three represent the barometric pressure—in this case 29.46 inches. Of course you understand more about that than I do."

"I should suppose this pressure indicates rain, for the pressure is comparatively low. But we don't know whether it is lower or higher than it was. What are the other two figures?"

"The eight represents the direction of the wind—in this case northwest. You see the wireless authorities have divided the compass into eight points and each point is represented by a figure. The last figure, six, indicates the force of the wind according to the Beaufort scale. Six means a strong breeze. So the forecast for Delaware Breakwater is strong breeze from the northwest with barometer at 29.46."

"Now that we have the entire forecast," said Dr. Hardy, "I'll change my guess about the barometer. I suspect it is rising, and we shall have fair weather."

"It doesn't matter now that we shall not have to hunt for those dynamiters," said Henry. "But I'm glad it's going to be fair, anyway."

The hours rolled by. Excepting the operators and Captain Hardy, every member of the wireless patrol was sound asleep. Now it became dull work listening

in. There was plenty of news flying through the air, but it was uninteresting. The camp was enveloped in a quiet as heavy as the darkness. The labors of the day told on the watchers and they had to fight to keep awake. Willie, alone at his key on Prospect Hill, profited by his sleep during the day, and was alert and without drowsiness. But Henry and Lew had to fight to keep their eyes open.

At one o'clock Lew laid down his receiver and awakened Alec who was to relieve him. Dr. Hardy took a coffee-pot to the camp-fire, where hot coals still smouldered, laid a few twigs on them and made hot coffee. Then he and Teddy and Henry had some sandwiches with their hot drink and all felt refreshed. But Willie, sitting alone at his key in the other camp, went through the night without food or drink. The comrades that were to prepare for him a midnight lunch were asleep and Willie forbore to call them.

The air began to quiet down. As the myriad wireless men turned off their switches for the night, and the messages came less and less frequently, it made Henry think of the coming of night on the river when at dusk the air is vocal with the twilight song of birds, and the swallows skim over the water in countless numbers. And then, one by one, the bird voices cease, the dart-

ing forms disappear from the sky, no one sees how or where, and the night is hushed in silence. So the multitudinous voices in the ether, as mysterious and yet as real as the darting birds in air, disappeared one by one, and a silent hush gradually descended on the heavens.

Two o'clock came. The stars were brilliant in the inverted bowl above. The flashing Arcturus had sunk low in the west, but Vega and Altair and Deneb looked down upon the watchers on the hills just as the stars had shone above those slopes in Palestine where the shepherds watched nineteen centuries before. The hushed stillness of deep night lent a touch of awe and solemnity to the hour that was felt by every wakeful member of the wireless patrol.

A quarter of an hour passed. Half-past two came. The clock on the wireless table pointed to two forty-five. Dr. Hardy went to the tents, roused Robert and Teddy, and built up the fire so it lighted the entire camp ground. At the same time Willie was calling Roy and Carl. All responded with alacrity, pulling on their clothes in haste and hurrying out to the wireless tents. Stakes were already prepared, with hatchets at hand to drive them. Dr. Hardy and Carl had each a good compass in his pocket. Should the dynamiters

talk at three o'clock, the wireless patrol were ready to locate them. While they waited, they munched sandwiches. They were too nervous to talk. The very air was tense with suppressed excitement. Even Dr. Hardy clasped and unclasped his hands. He rose from his seat and walked from one wireless tent to the other. The waiting boys shifted their positions uneasily. Henry and Alec sat at their instruments almost rigid.

And just as the fingers of the camp clock pointed to three, Henry spoke sharply. The watchers jumped, so tense were their nerves. "NDA is calling," said Henry.

Alec cried in response, "I've got them," and began writing down the call signal. And when the message began to fly through the night, his fingers ran nimbly across his pad and line after line of words appeared on the white page.

At the first letter of the call Henry began to revolve his exploring coil. Back and forth he swung it until it came to rest.

"Quick! Drive a stake there!" he cried, pointing with his finger.

Teddy flew to the spot indicated. Henry squinted along his coil.

"There!" he cried, and Teddy drove the stake at the exact spot.

Again Henry revolved his coil. He meant to locate the answering station. The response to the wireless call was prompt. WNT replied at once.

"There!" cried Henry, indicating a second point. And Teddy darted to the place and drove a second stake.

As the wireless conversation continued, Henry swung his coils again and again, until he was absolutely certain that he had found the proper directions. Then Dr. Hardy took his stand behind Henry's instrument, and setting his compass on a box, beyond the range of magnetic influence, carefully read and registered the points of the compass from which the wireless voices had come through the night.

Meantime, on Prospect Hill, Willie and Carl and Roy were doing exactly the same things; and when the directions were established beyond question, Roy noted down the compass bearings. Later on, the two detectors would point out the exact bearing of each other, so that Dr. Hardy would have the angles for his calculations. But just now the watchers in the two camps, done with their other tasks, stood tense and silent behind Alec and Willie who were writing down

the message word by word. This message was longer than the one of the night before. When it was ended, and the plotters had ceased talking, Alec laid his record on the table before Dr. Hardy. It read as follows:

"Supplies were all sent last week. This was rainy morning. Need new pickets for fence. Using scantlings and extra posts. By care can save trainload of lumber. Machine has arrived. Guns for campers go with guides from here to Pittsburgh. Our nearest district superintendent goes Tuesday. We shall finish all construction work by or before that night's sunset. Will see that secretary makes date for you."

Dr. Hardy took his pencil and scratched out the dummy words. The hidden message stood revealed. It was as follows:

"Supplies ——— sent ——— this ———
morning. ——— pickets ——— using ———
extra ——— care ——— trainload ———
machine ——— Guns ——— go ———
from ——— Pittsburgh ——— district
——— Tuesday. ——— Finish ———
work ——— before ——— sunset ———
that ——— date."

Dr. Hardy read it aloud to the group of eager boys that clustered about him. An expression of amazed wonder appeared on their faces.

"Some one else blew up the Eaglevale reservoir!" cried Roy. "These fellows are still at work. And they have their powder now, too."

"And they're ordered to finish their work before sunset next Tuesday," said Henry. "We've got to work fast to stop them. This is Friday night."

"They've even noticed that the guards are more vigilant," said Teddy. "They must have spies watching our soldiers!"

Dr. Hardy was silent. His face wore a puzzled expression. Presently he said, "Boys, there's more in this message than we think. Why should these dynamiters be told of a shipment of arms next week? And what is the connection between the blowing up of the dam and this shipment?"

They were silent, each thinking deeply. Suddenly Roy cried, "I've got it! Our soldiers need machine guns awful bad. The dynamiters are going to blow up the reservoir on Tuesday to keep that shipment back, and maybe destroy it. It must be that the breaking of the dam will wash out the railroad."

"I believe you've hit it, Roy," said Dr. Hardy. "We must locate these plotters at once. Then we can tell." He drew out his compass and while Henry located Willie's station with his detector, Dr. Hardy

got its exact bearing, noting it down on a sheet of paper. Then he put down the bearing along the line of the stake Teddy had first driven. "Call Willie," he said to Henry, "and get the compass bearings from Prospect Hill to the secret stations."

Dr. Hardy noted them down as Henry received them. Then, with ruler and pencil he rapidly laid out a triangle along the directions indicated. The triangle was short of base with very long sides.

"The short base-line," said Dr. Hardy, as the eager boys peered over his shoulders, "is the three-mile line between our two stations. The sides of the triangle are the lines between our stations and the secret station NDA. That station is just at the apex of the triangle, where the two lines meet. Now we must find how far away that is."

He drew a perpendicular from apex to base of the triangle. Then he laid his ruler along the base-line.

"That's three miles," he said, and marked the space on the ruler. Next he laid the ruler along the perpendicular line he had drawn in the angle. It was just ten times as long as the base-line. "It's thirty miles from our base-line to the secret station," said Dr. Hardy.

He drew out his contour map and made a duplicate of his triangle on it, with the base-line running from

Camp Brady to Prospect Hill. "There's where the secret station is located," he said, indicating a spot with his pencil point.

The boys leaned eagerly forward. The map showed a wild, mountainous country. A stream ran through a gorge-like valley. And close beside the indicated spot was a great reservoir.

"See where that water will go if the dam breaks," cried Roy.

With his pencil Dr. Hardy followed the course of the stream. It curved along in a tortuous path, winding between high and precipitous mountains. Ten miles down-stream was a great manufacturing city. And just here the main line of the P. and B. Railroad, the greatest artery of traffic from the steel district to the Atlantic coast, crossed the river.

"Ah!" cried Dr. Hardy. "It's as plain as day. The breaking of the dam will send a wall of water down that gorge that will wipe out the city, destroy every factory in it, and sweep the railroad bridge out of existence. That one blow would cripple the army terribly. Boys, it must never happen. We have got to prevent it! We have got to find the dynamiters!"

"And we've only got until Monday night to do it in," cried Roy.

CHAPTER XII

AN UNSUCCESSFUL SEARCH

THOUGH it was three o'clock in the morning, and every wakeful member of the wireless patrol was worn with the long vigil, the startling message from the air galvanized them into fresh activity.

"We have not a moment to lose," said Dr. Hardy.

Rapidly he plotted the location of the secret station WNT, and found it was located in a considerable town some miles distant from the reservoir and the endangered city.

"If this station is hidden, as it certainly must be, we shall have to let it go," he said regretfully. "It would be like looking for the proverbial needle in a haystack to search for it. The aerials will be concealed, and the entire plant hidden from sight. Nothing but a house to house search would uncover it. But we can get the other fellows."

He went to the telephone and called for Colonel Ware. "We have located the dynamiters," said Dr.

Hardy, the instant the Colonel reached the telephone. "They have a secret wireless station very near the big reservoir above Elk City. There is another secret wireless at Fairview; and the Fairview plotters are keeping the others informed and sending them materials. At three o'clock they sent this message: 'Supplies sent this morning. Pickets using extra care. Trainload machine guns go from Pittsburgh district Tuesday. Finish work before sunset that date.' By supplies they must mean the powder asked for by the dynamiters. These fellows are working under the very noses of the state troops, Colonel. If they aren't captured before Tuesday, Elk City is doomed."

"I'll wire the Governor the first thing in the morning," said Colonel Ware.

"Pardon me, Colonel," urged Captain Hardy, "but we can't wait until morning. These fellows are evidently very clever. They have eluded the guard completely. There is not a moment to spare. Some experienced searchers should be sent to the reservoir at once to find these plotters."

"I hardly think anything can happen to the dam with our men guarding it day and night," replied Colonel Ware coldly. "However, I will send a message to the Governor at once, though it seems to me

that nothing but a serious crisis can justify getting a man out of bed at this hour."

Captain Hardy frowned at this implied criticism of his own action in awakening the Colonel, but said merely, "I, too, regret to disturb him. But I think the occasion warrants it."

In a few moments the telephone rang and Henry took down a message in cipher. In a few minutes more the Colonel's communication to the Governor was speeding through the night. Before dawn came a reply for Colonel Ware.

"Telegram received," it read. "Have ordered detachment state police rushed to scene. Offenders will be apprehended. Congratulations on your good work in uncovering plot."

Henry was at the wire when the message came. A red spot appeared in each of his cheeks. Seldom was Henry angry, but this message made him distinctly so. It was the wireless patrol—the boys who had worked long and unselfishly and sat patiently through the long vigil—that had uncovered the plot of the dynamiters; and it came hard to see an indifferent militia officer receive the credit that Henry felt belonged to the true blue boys at Camp Brady. But he crushed down the feeling and promptly telephoned the message to the guard

headquarters. At reveillé Henry took a copy of the message to Dr. Hardy. The latter read it and bit his lip savagely, but said nothing. After a moment's thought, he went to the telephone. He was quickly in communication with Colonel Ware.

"I want to thank you, Colonel," he said diplomatically, "for your promptness in notifying the Governor. Doubtless the guardsmen and the state police between them will nab the dynamiters. But if there is anything further the wireless patrol can do, we shall be only too glad to do it."

Colonel Ware thanked him perfunctorily.

"There's one thing I want to ask of you as a favor," continued Dr. Hardy. "Won't you please keep us informed as to the developments in the search for the plotters?"

Colonel Ware promised that he would, and the conversation ended.

Early on Saturday a force of state police was rushed to the reservoir and the guard of soldiers was doubled. For twelve hours the police beat through the brush and searched the neighborhood of the reservoir. They found absolutely nothing to indicate an attempt on the dam, and returned to their headquarters vexed and annoyed.

In some way the leader learned that they had been ordered out because of a wireless message picked up by some boy campers. He reported to his superior officer as follows: "Company B has thoroughly searched every foot of ground within a mile of the reservoir above Elk City. There is not the slightest indication of any attempt to dynamite the dam. No one except state troopers has been near the reservoir. The information about the plot to blow up the dam is wholly imaginary. The reservoir is entirely safe."

This report was forwarded to the Governor, and by him sent to Colonel Ware with some caustic comments. Henry was on duty when the message came in. He took it down, and the red spots came back into his cheeks. He had hardly finished telephoning the message to guard headquarters before the telephone rang violently and Colonel Ware sharply demanded to speak with Captain Hardy.

Henry, with a delicacy unusual in a boy of his age, at once withdrew from the tent. What passed between Captain Hardy and Colonel Ware no member of the wireless patrol ever knew; but Captain Hardy came out of the tent red in the face and biting his lip savagely. And an angry light shone in his eyes.

He went to his tent and sat down at his table.

There Henry found him an hour later when he was relieved by Roy. A frown was on the doctor's face. In his eyes was an expression of anxiety.

"The fools!" he muttered, as Henry came into the tent. "Are human lives to be sacrificed and the army imperiled because of such blockheads?"

He turned to his lieutenant. "Henry," he said, "this is a terrible situation. The guardsmen haven't seen any enemies. The state police hunted around a few hours and didn't find any. Now they inform the Governor that there never was the slightest danger and discredit us. But the men are there, Henry. I have no doubt of that. And if they are not caught before sunset on Tuesday Elk City will be a second Johnstown, and our men on the firing line will be dying for want of machine guns. It must not be."

He got up and paced the floor, apparently in great excitement. In reality he was so angry he could not remain quiet. Suddenly he cried, "It shall not be!"

"What are we going to do about it?" asked Henry.

"What are we going to do?" repeated Captain Hardy, his eyes flashing. "What Alexander did to the Gordian knot. The wireless patrol itself will catch the dynamiters. And we'll get them before sunset on Tuesday, too."

He continued to walk up and down the floor of his tent. His eyes flashed as Henry had never seen them flash before. All the gentleness was gone from his face. A look of stern, almost fierce, resolution had replaced it.

"We can't expect any help from the authorities," he said, after a pause. "Indeed, if they knew about it, I don't think they would let us do what we are going to do. Why, Colonel Ware is angry enough at us to put us all under arrest—and we gave him a chance to make himself famous."

"But what are we going to do?" asked Henry.

"Do?" said Dr. Hardy sharply. "We're going to the Elk City reservoir. We're going to find the traitors that are plotting to blow up the dam. We're going to have them in hand before sunset on Tuesday, alive if possible, dead if necessary. The wireless patrol is going to do what the Pennsylvania guard and the state police couldn't do. We're going to save Elk City and the boys in the trenches. That's what we are going to do. Now leave me alone for half an hour so I can think this thing out. Please keep the camp quiet."

Never had Henry seen Dr. Hardy look or heard him talk, as he looked and talked now. The suppressed

excitement, the controlled force, the galvanic power of his words thrilled Henry through and through, woke an answering chord in his breast, and steeled his resolution as nothing had ever done before. Instinctively he knew that exciting scenes were ahead. He divined the fact that peril lay before them. And his mind thrilled at the thought that the wireless patrol and the boys he loved so well were to have a part in a deed that would live in memory so long as Elk City should exist.

Alone in his tent, Captain Hardy sat with his head in his hands. "Sunday morning," he muttered, "and we've got only forty-eight hours to do it in. We'll have to do it secretly, too. Heaven grant nothing happens here while I'm away from my post. They might make it unpleasant for me. But go I will, no matter what happens."

For a long time he was silent. Suddenly he muttered, "If only I had another Henry. But he must go. Some one else must take charge here. Who shall it be?"

Rapidly he considered the merits of each boy in the patrol. "I'll put Lem in charge," he said, finally. "He isn't quick and brainy like Roy and Henry, but he's been absolutely faithful about everything he has

been asked to do. I can trust him implicitly." Then a great light came over the doctor's face. "What a change has come to Lem in a year!" he said. "If this organization had done nothing else, the change wrought in Lem would have justified its existence. He's as dependable as Gibraltar now."

For a quarter of an hour longer the camp leader remained in thought. Then he tapped a bell on his desk. Henry responded instantly.

"I've decided what to do," said Captain Hardy. "Eight of us will go to the Elk City reservoir. I've picked the boys who have shown the most ability. You and Willie must go to operate the wireless outfits. I want Lew and Teddy for scouts. We shall have a hard time to find those scoundrels. They're hidden away where only the sharpest eyes will ever detect them. I want Carl and Roy. Roy can think quicker than any boy in camp and he has an eye like an eagle. If we have to fight we shall need Carl badly. We'll take Charley along to tend camp and cook. I'm going to leave Lem in charge here. What do you think of it?"

"You couldn't find a better boy for the place," said Henry. "Lem's changed tremendously, Dr. Hardy. You can rely on him to do anything he says he will."

"Send him here," said the leader.

Lem came in.

"Lem," said Dr. Hardy, "the state police couldn't find the dynamiters and they think we sent them on a wild goose chase. There's only one thing will save Elk City: the wireless patrol must catch the dynamiters."

Lem's eyes lighted up as he listened.

"Eight of us are going to try to find them. The rest of you must stay here in camp. I am going to put you in charge, and I appoint you my second lieutenant."

The expression that came into Lem's face was difficult to analyze. He looked as though he were bursting with pride and yet about to cry.

"Me!" he exclaimed. "Leave me in charge!" and could say no more.

"Yes, Lem, I'm going to leave you in charge. I know what you are thinking. You wonder how I can trust a boy who did what you did last summer. Well, you are not the same boy you were last summer, Lem. You are a very different boy. I can trust you now—absolutely. That's why I'm selecting you to take charge." Dr. Hardy paused a moment as though seeking for the exact words he wanted. "Lem," he said,

"this expedition must be a secret expedition. No one must be allowed to think that the camp is practically deserted. No one must know where we have gone. I leave it to you to see that every duty is performed and particularly that the work for the guards is well done. Let there be nothing to draw attention to the camp. And have the boys keep up a show of activity. Can I depend upon you?"

"Yes, sir," said Lem, his eyes moist. "And I want to thank—to thank you for—for your confidence in me. I'll do everything I can to justify it."

Dr. Hardy held out his hand and his luminous smile came back to his face. "I knew you would," he said, as he pressed his second lieutenant's hand. "The first thing for you to do is to have the station at Prospect Hill dismantled and the apparatus brought here at once."

Lem went out and Dr. Hardy sent for Roy. "You can drive a motor-car, I understand," he said.

"Yes, sir."

"Well, Roy, the wireless patrol are going to Elk City. This is a secret expedition. Eight of us are going ——"

"Am I one?" interrupted Roy eagerly.

"Yes," said Dr. Hardy, smiling. "We couldn't go

without you. The rest of us will wander away and take the train at the next village. We shall carry nothing but our portable wireless outfits. But there will have to be other supplies. I want you to take them in Mr. Robinson's motor-car. You will go to this address," and he gave Roy a piece of paper, "and wait until we get there. You will be welcome, for the owner of the house is a friend of mine. Do you understand?"

"Yes, sir," said Roy, with shining eyes. "I'm to be the commissary department for the wireless army."

"Exactly," laughed Dr. Hardy. "And you know how necessary it is for the commissary department to be on deck."

"I'll be there," said Roy, as he saluted and withdrew.

At once the work of collecting and packing duffel began. Henry and Willie made two small, portable wireless detectors to replace the big ones that had been in use. For short range work, such as they had in mind, they were sure the smaller ones would be satisfactory. Later they tested them and found them so.

For general use one tent was selected and rolled up. Blankets for each man were packed. Cooking utensils and food were chosen by Charley. At the arsenal Dr.

Hardy gave each man fifty rounds for his cartridge-belt and a strong hunting-knife. The weapons were carefully packed to go with the other articles in the motor-car. A coil of small wire was also to be taken in case of need, and some rope. Only the wireless apparatus, packed in the smallest compass possible, and divided among the eight members of the expedition, was to be carried by hand. Small as the risk was that the articles taken by Roy might be lost, the wireless was so important that Dr. Hardy could not incur even that slight risk with it.

When the supplies were packed in the motor-car, and hidden from sight by an auto robe, Dr. Hardy ordered Roy to depart at once.

"You'll have most all day to travel thirty miles," he laughed, "but if you go at this early hour you'll meet fewer people and attract less attention. We'll be starting ourselves in an hour or two. We'll slip off one at a time and meet at the station. Good-bye and be careful. And don't forget what I told you about how important the commissary department is."

Roy saluted, waved his hand to his comrades, and, smiling happily, drove off. Had he known what lay before him, his face would have worn a very different expression.

CHAPTER XIII

HOW ROY MET AN EMERGENCY

QUIETLY Roy drove down the wood road toward the main highway. The feeling of elation that always came to him when he was at the wheel of a motor-car was in his heart now. He felt like a bird, as though he had wings. He wanted to get to the good road where he could "let her out." How he did love the throb of the engine, the rush of the wind, and the sense of power and mastery that went with fast driving.

But now he remembered that he was on a special mission for his captain, that the fate of the secret expedition perhaps rested with him, and that failure on his part might mean failure in the search for the dynamiters, and hence the blowing up of the dam and the destruction of a prosperous city. To be sure he was but one link in a chain; but Roy remembered that a chain is no stronger than its weakest link. He resolved that he would not be the link that should break.

With that thought in mind Roy rigidly put away his desire to ride fast, and went bowling along at a mod-

erate gait, watching every stone and rut in the road, looking sharply for nails and glass, and keeping a watchful glance on every curve ahead. He had his car under perfect control. And that was because he had himself no less completely in hand. Could Roy have but known it, he was a splendid example of the very thing Dr. Hardy was always trying to instil into his boys—he was so much his own master that he could be depended upon absolutely. He would do exactly what he said he would do, in the way he had promised to do it. Thus early had Roy acquired that priceless quality, trustworthiness, that made his captain and his associates trust and love him, and that was to ensure his success in life.

A mile from camp Roy struck into an unfrequented road that led through the mountains direct to his destination. This was a village a few miles from the Elk City reservoir. Dr. Hardy had decided that the wireless patrol should not go either to Elk City or to Fairview; for some of the plotters were known to be in Fairview and others unquestionably were on the watch in Elk City. From the house to which Dr. Hardy had sent Roy, and where the wireless patrol would come later by train, the party could slip into the woods from the back door without any one in the village being the

wiser. A hike of four miles, all in the shelter of the forest, would take them to the reservoir itself. By going in this way the party could approach the reservoir from a quarter where searchers would be least expected. Roy did not know all this, but he had once been in the village and now his keen mind grasped at once the reason for starting the search from there instead of from Fairview or Elk City. He smiled with pleasure as he realized how well his captain had planned the adventure.

That realization made Roy desire all the more keenly to do his part perfectly. Nothing was going to prevent him from keeping his promise, he told himself, and "being on deck" with the commissary department.

As he drove along the way became wilder and rougher. Very evidently motor-cars seldom passed over this road. The ruts were wide and deep. The surface of the road was so rough it could never have been scraped. Stones and jagged rocks were everywhere. And to make it worse, the way was very hilly. Roy never took his eye from the road for an instant. Skilfully he dodged rock and rut. And in order that he might save the car from shock and avoid any possibility of breaking something, he climbed all the hills on his gears.

The road followed the course of a little stream, which wound through a gap in the mountains. As Roy proceeded this gap grew narrower. No longer was there any level bottom-land. The sides of the notch came closer and closer together until the gap was like a great letter V. There was no longer room in the bottom for even a road, and a narrow shelf had been cut into the hill for a highway.

"This wouldn't be a good place to meet anything," muttered Roy. "I don't know how two rigs could ever pass each other."

He drove on carefully, looking sharply ahead and listening at every curve for sounds of an approaching vehicle. He felt just a little worried. Even though no mishap came to him, he saw that he could no more than reach his destination in time. He was hardly making six miles an hour on this mountain road. And if he met anybody, even though no mishap occurred, he was certain it would delay him. He could see no way for two vehicles to pass except for one of them to back down the mountain to a wider spot in the road. But no team appeared. Not even a pedestrian came along to dispute the road with him. And in time Roy reached the end of his long climb and began to descend on the far side of the hill.

If such a thing could be possible, this side of the notch was even steeper and narrower than the other. Roy shut off his power and let the car coast down-hill in second gear. He felt safer that way, for it gave him absolute mastery of the car. From time to time he stole a glance to one side or the other. On either hillside were frequent gashes where miniature landslides had bared the bones of the mountain.

"A fellow wouldn't have much show if a real landslide got started here," muttered Roy. "I'll be glad when I get out of this place."

He dropped down as fast as he dared. And as often as he dared, he looked aloft. Those bare patches on the hillside somehow seemed to fascinate him. In particular one great scar, the largest by far that he had noticed, caught his eye far ahead at a curve in the road. It was on his side of the notch and the road passed directly under it.

"Glad I wasn't coming through here when that one came down," muttered Roy.

He was almost at the place. In a moment he reached it. "Well, I'm by that one safely," he said.

But even as he spoke, there was a rushing, ripping sound and a great rock shot downward, followed by a slide of earth. Roy jammed on both brakes. But his

momentum was so great that he could not stop instantly. The rock struck the road just ahead of him and came to rest; and almost at the same time a forward wheel crashed into the rock and the car stopped with a shock. Roy trembled almost as violently as the car had done.

"Gee! I thought I was a goner," he muttered.

Then he set his brakes, hopped out and found a stout stick, and pried the rock off the road. It went crashing down to the bottom of the ravine with a thunderous roar that made Roy shiver.

Roy hopped back to his seat, took off his brakes, and once more started to coast down the mountain. Then he jammed them on again as hard as he could. The car had started directly toward the edge of the road. With his heart in his mouth, Roy once more got out. A single glance verified all his fears. His steering-knuckle was broken. There was no possible way for him to fix it.

For a moment Roy was almost overcome with grief. He was going to disappoint his captain. His nimble mind saw the entire expedition fail because the commissary department had met with an accident. He sat down on a rock and buried his face in his hands.

But he did not remain so long. In a moment he got

a grip on himself. He commanded his mind to think, just as he had commanded himself to go slow when he wanted to go fast. And he did think. He bent every faculty to solve his present problem.

"I can't drive this car another foot," muttered Roy, "so nothing can be done with it. I don't dare go away and leave it, for if anybody comes along and finds a deserted car with such a valuable load, they'd rob it sure. I just can't leave it. But if I don't telephone for help, I'll never get out. Oh, if I only had my wireless!"

For fully five minutes Roy sat silent, his face again buried in his hands. But he was not crying. He was thinking hard. Suddenly he jumped to his feet with a shout that could have been heard half a mile away.

"I've got it!" he cried. "I've got it!"

He leaped into the car and yanked out his tool kit. In a moment he was uncoupling the spark-coil. Next he loosened the battery and lifted it out on the running-board. It was all he could do to handle the heavy thing. Then he hopped into the car, tore up the back seat and began to rummage in the container underneath it. He dropped an umbrella on the front seat. He tossed out the curtains. He threw a jack and a bag of chains to one side. He scattered blow-out

patches and the repair kit. And he gave a yell of delight as he found two old dry cells, that Mr. Robinson had carried as a reserve before he had his car partly rebuilt and had replaced his cells with a battery. In a moment the cells stood on the running-board with the battery and the coil. Then he began excavating in his load for a coil of wire.

His fingers worked nimbly. With a pair of nippers he cut two short lengths from the coiled wire and coupled them to the spark-coil, attaching one end of each to a dry cell. These he stood close together on the rubber cover of the running-board. Between the spark-coil and the dry cells he fastened on each of the connecting wires other pieces of wire, but a few inches long. Then he made handles to grasp these short wires by, cutting pieces of a branch and splitting them so they would grip the short wires like clothes-pins. Finally he coupled his battery to his spark-coil.

"Now," he muttered, "we'll see if it works. It ought to. There's a battery, a spark-coil, a condenser, and a key—such as it is. I wonder if I can ever send with it."

He knelt before the running-board, took hold of the wooden handles and brought the ends of the short wires together. A stream of fire flashed between the points.

"It works!" cried Roy. "It works!"

He began to practise making letters. "I can do better if I fasten one of these to something," he muttered, after a brief trial of his instrument.

He got out the repair kit box and fastened one of his wooden handles to it. Now he found he could make his letters much better. With a little practise he could send distinctly though slowly.

"What am I going to use for an aerial?" muttered Roy.

He glanced aloft for a place to put it and his eye fell on a pine-tree that had broken short off about thirty feet in air. "Just the ticker," said Roy. "Now for the aerial itself."

He began to unwind the coil of wire. Suddenly his eye fell on the umbrella. He gave a shout, and seizing the umbrella ripped the cover from it so that the ribs stood bare. Then with the umbrella frame and the coil of wire fastened to his belt, he climbed to the top of the broken pine. He bound the wooden handle of the umbrella to the shaft of the pine, so that the umbrella stretched upward like a lightning-rod. Then he cut and fastened several lengths of wire to the extended ends of the umbrella ribs. He descended from the tree, gathered his dangling wires and twisted them

together with another length of wire, which he led directly to his outfit on the running-board and coupled fast to it. His wireless was complete.

As he knelt before the running-board once more, the flush went out of his face and he looked pale and serious. Would his wireless work? Would it carry to Camp Brady? He had driven ten or twelve miles, but in a straight line he was not more than three or four miles from camp.

"If only I had some receivers," groaned Roy, "then I should know whether they heard me or not."

He looked at his watch. In five minutes it would be the even hour, and the man on duty would be listening in. Roy laid his watch before him on the running-board. Never had he known five minutes to go slower. But at length the minute-hand crept round to twelve, and Roy picked up the handle and set to work.

"WPB—WPB—WPB CBK," he called, forming the letters with painful slowness. Three times he called. Then he began sending. "Broke steering-knuckle near summit notch road. Can't get help. Send car with another. Made wireless. No receivers. Can't hear you."

Again and again Roy sent his message flashing into the air. Every fifteen minutes he called Camp Brady

and repeated his message. The sun climbed high and poured down into the windless notch with torrid fierceness. Roy paid no heed to it. He became so thirsty that his tongue almost stuck to the roof of his mouth, but he did not leave his place in the hot, shadeless road. The heat waves quivered upward from the blistering sand until the landscape seemed to vibrate, but Roy stuck to his task. Like a wireless man at sea sending out his SOS, Roy stayed at his post and continued to fling abroad his signal of distress.

It seemed to him as though hours and hours had passed when suddenly he heard afar the long-drawn blast of a motor-car horn. Again it sounded, and yet again, filling the narrow canyon with startling echoes. Then came the beating of a motor. Nearer and nearer the sound approached until a car shot around the last curve in the road and Roy, at once filled with hope and with dread, saw that hope was to triumph. At the wheel sat Dr. Hardy and by his side was Lew.

"You got us just in the nick of time," said Dr. Hardy. "The boys had already left and I should have been off in five minutes more. How did you ever do it, Roy? You had no wireless outfit with you."

Briefly Roy explained how the accident had happened and how he had made an outfit.

"Roy," said Dr. Hardy, "if this expedition succeeds —and it's going to—I shall see that the Governor hears of this."

Roy hung his head, but it was merely to hide the tears of joy and pride that would come into his eyes.

Then while Dr. Hardy and Lew put on the new knuckle, Roy dismantled his outfit, replaced the parts in the car, and took down the scarecrow umbrella from the broken pine.

In half an hour the car was repaired. Roy took his place at the wheel and started down the mountain. Dr. Hardy's car followed. Soon they were out of the notch. Dr. Hardy knew a short cut to a good road. And within ten minutes of the time the wireless patrol under the leadership of Henry reached their destination, the two motor-cars came chugging up and disappeared in the barn. The commissary department was "on deck."

CHAPTER XIV

THE SECRET EXPEDITION

"WE have not a moment to lose," said Dr. Hardy, as the cars came to rest.

Immediately Roy's car was unloaded, the other members of the party were called into the barn, and the duffel was divided and packs made up. Then with a brief word of farewell to their host, the wireless patrol slipped into the forest.

"We will march in single file," said Dr. Hardy, "and each man will keep his position in line. Let there be no talking. Lew and Teddy will go ahead as scouts. Roy and Willie will bring up the rear. You four scouts must keep your eyes open wide. Watch particularly for signs of men. These dynamiters are getting supplies. Their confederates may be bringing them in by this very route. Be on the lookout for footprints, knife or hatchet marks, ashes of camp-fires, and especially smoke. If any one sees or hears anything suspicious, hold up a hand and speak softly to the man ahead of you. Pass the word along and halt

the column at once. Be particular not to talk. Forward. March."

The boys shouldered their packs, strung out in single file, and proceeded silently through the forest. In advance cautiously walked Lew and Teddy. Their gaze continually roved from right to left. They examined every inch of the way for footprints. At damp spots and by little brooks they scouted swiftly to each side of their line of march, looking for telltale impressions. Their eyes swept the trunks and limbs of trees for fresh cuts. In likely spots they searched for dead ashes of camp-fires. They kept an eye aloft to watch for birds. Once Lew held up his hand and halted the column; but it was only to allow a flock of crows time to move away from a stand of pines some distance ahead. At the rear of the column Willie and Roy kept similar watch, and every person in the party was on the alert. But nothing suspicious was observed, no signs of human passage were discovered, and the stillness of the forest was unbroken as the little patrol cautiously wound along under its leafy canopy.

Dr. Hardy, compass and map in hand, marched immediately behind his advanced scouts and directed the course. This took them northward up a gentle slope and then into a gap in the mountains. This gap car-

ried them over the first of two parallel ranges that lay along the south side of the large reservoir. When they had crossed over this first ridge and reached the valley beyond, they turned sharply east, and proceeded along this valley, with a mountain range on either hand. Eastward they marched until Dr. Hardy judged that they were past the dam. Then they struck north again through a notch, crossed the second mountain range, and came down into the bottom very close to the spot they were trying to reach.

The Elk City reservoir had been made by damming up a stream that ran eastward between the mountains. The valley of this stream was for the most part like any other narrow mountain valley. But just where the reservoir was located, the convulsions of Nature that heaved up the mountains had also thrown them far apart, suddenly widening the valley. Eastward of this open space the country was a jumble of disordered hills and ridges, as though the rocky mass that had been squeezed out to expand the valley had lodged here in ragged heaps. The dam, naturally, had been built at the eastern end of the wide expanse. And just beyond the dam lay this jumble of rocks and hills.

North of these clustered knobs ran the overflow from the reservoir, the shrunken remainder of what

was, above the dam, a considerable stream. Along the margins of its course, where originally the water had spread, great thickets of red birch and tag-alders, and other water-loving growths had sprung up. One could hardly imagine a wilder place than this broken region, with its confused piles of rocks, its heavy stands of timber, and its dense thickets and tangles of underbrush.

In the centre of a cluster of these ragged hills, and in the heart of a dense stand of pines, Dr. Hardy located his camp. The place was far enough away from the dam so that prowlers and guards alike would not pass near it; yet a half hour's march would bring the patrol to the very dam itself. It was not near the trail that led up the creek valley, along which supplies for the troops were brought, and so no exploring teamster would be likely to come upon the campers. Hardly could there have been found a better place from which to see without being seen. The camp itself was absolutely hidden and yet a few minutes' tramp took the campers where they could observe all that went on.

And it was highly important for the success of Dr. Hardy's plan that neither guard nor teamster, nor yet the dynamiters themselves, should suspect the presence

of the wireless patrol. So far the patrol had penetrated in absolute secrecy, and Dr. Hardy was resolved that this secrecy should be maintained. Now he called the patrol about him and gave them instructions.

"Boys," he said, "I want to impress upon you again the necessity of keeping our presence here absolutely unknown. I am not at all sure what the guards would do if they found us. They are in charge here, and they might drive us away. They think we sent them on a wild goose chase, and they will not listen to reason. And if the dynamiters discover us, it would, of course, defeat the very purpose of our trip. So our first duty is to remain unseen.

"There must be no whistling, no loud talk, and in fact as little talk as possible. We must not chop wood, step loudly on stones, or strike metal objects together, or make any other noise that will attract man or beast. We must try not to alarm birds and animals. They can betray us by their excitement just as effectually as we can betray ourselves. There must be no fires. Wood smoke carries a long distance. We shall have to eat unwarmed food and endure the cold. Excepting to save your lives or take the dynamiters, a shot must not be fired under any circumstances. Above all you must obey orders absolutely and exactly. If there is

reason not to obey, notify me at once so that the order can be changed. I shall expect every one of you to do exactly what I tell you to do; for the success of this expedition depends upon how faithfully each man does his part. Now you may make camp. See to it that you make no noise."

Through the heart of the pine grove ran a little stream. In a tiny opening beside it the tent was pitched. Ropes were used to sling it up. The guys were tied to stones. With fingers and hunting-knives a narrow ditch was dug around the wall to keep out water. So silently did the work proceed that a passer-by a hundred feet distant would scarcely have known that any one was in the neighborhood. At that distance no trace of the tent could be seen. The brown of the khaki cloth harmonized well with the colors of the forest. Furthermore it was so dark beneath the pines that even now, at mid-afternoon, to read there would have strained the eyes.

As soon as the tent was up and the ditch dug, packs were unrolled, the blankets stacked within the tent, the food and dishes collected in a suitable spot near the stream, and the wireless apparatus set by itself. Each boy buckled on his cartridge-belt, saw that his pistol was loaded and ready for action, and slipped his knife

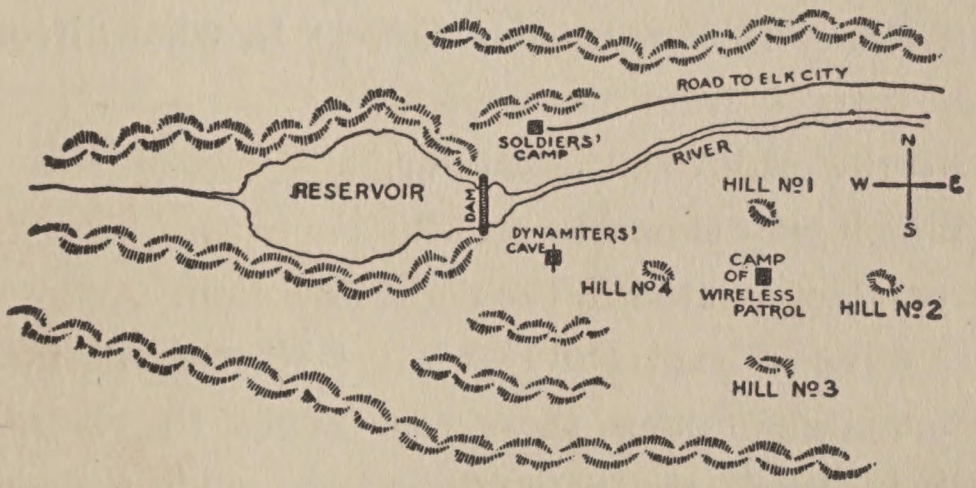
into its sheath. The wireless patrol was ready for action.

"Something to eat," said Dr. Hardy, briefly.

Charley got out a cold lunch and the patrol ate ravenously. They had had no food for eight hours.

After their lunch Dr. Hardy spread his map out on the ground. "Let us get this map in our heads," he said.

The boys knelt about the map and looked long and carefully at it. What they saw was much like this:



"Our camp is right here," said Dr. Hardy, making a cross on the map with his pencil. "You notice there is a knob north, east, south, and west. We will number them 1, 2, 3, 4, beginning with the one to the north and ending with the one on the west. This little stream runs almost exactly north, and empties into the

stream from the reservoir about a mile below the dam. There seems to be no small stream between our run and the reservoir. You will notice that all these jumbled hills and knobs are really in the middle of a valley shut in by two parallel ranges of mountains that run east and west. The river flows along the foot of the range to the north. We are not far from the range at the south.

"Have you got all the landmarks in your minds?" said Dr. Hardy, after a pause.

"Yes, sir," answered the patrol.

Dr. Hardy took away the map. "In what direction is the reservoir from our camp?"

"Northwest," was the answer.

"Which way is northwest?"

Every boy pointed in the right direction.

"Excellent," said Dr. Hardy. "Now don't forget. The mountain ranges, these four knobs, the river, and our little brook are the landmarks to guide yourselves by. Now we will do some scouting."

The scouts were told off in twos.

"Henry and Willie will explore this side of the valley between our camp and the reservoir," said Dr. Hardy, "and locate good sites for the wireless outfits. I believe Hills Number 1 and 4 will be the best loca-

tions if the nature of the ground proves suitable. Lew and Teddy will follow the run half-way across the valley, then scout straight toward the dam. Roy and I will explore the other side of the valley. Carl and Charley, you will stay in camp and prepare the wireless so it can be carried easily and set up quickly. And you are to get supper ready. Let everybody be back by six o'clock sharp. Now remember! Watch the wind, watch your compasses, watch the birds, keep your eyes open for every suspicious sign, and above all don't betray yourselves. Do not under any circumstances let your presence become known. Now do your best."

CHAPTER XV

ON THE TRAIL OF THE DYNAMITERS

HENRY and Willie started straight for the west. Teddy and Lew headed for the north, following the course of the run, with Lew in the lead. The doctor and Roy marched hard on their heels.

Close beside the brook the earth was soft and in places muddy. A little distance back from the stream the ground was flinty and rugged. Lew at once drew back from the soft ground, lest telltale footprints be left behind, and made his way over the stony places. Dr. Hardy smiled with approval at this bit of woodcraft.

Slow and cautious was the advance. Every few rods Lew stopped and listened. Once he knelt and put his ear to the ground. Apparently he heard nothing alarming, for he continued on his way. At every opening in the trees he looked about for landmarks. When he had gone a full half mile he stopped and pointed questioningly toward the dam. Dr. Hardy

nodded and Lew and Teddy struck off to the left and in a moment were lost to sight in the underbrush.

The leader and Roy continued due north. Dr. Hardy led the way. For perhaps a quarter of a mile he advanced swiftly. Then he stopped and listened. An almost indistinguishable sighing sound could be heard.

"We are approaching the river," he whispered to Roy. "We must be very careful."

They went on, now proceeding with even greater caution, careful not to shake the bushes, particular as to where they stepped, keeping an eye open for birds and their ears turned to the gentle wind. The murmur of the river grew ever louder. Presently it became a strong rushing sound. It would drown out any noise they might make, but it also would submerge sounds that might be made by others.

Nothing occurred to stay the march. The two came close to the river. Its roar was now so loud that they had to depend for information entirely upon their vision. Frequently they halted and looked about. They made their way into the thicket of willows and birches lining the river margin, and selecting a spot where they could see across the stream without being seen, sat down to watch.

At the end of fifteen minutes a wagon loaded with supplies passed up the rough road. Captain Hardy and Roy worked their way up-stream through the willows, keeping almost abreast of the slow-moving wagon. They followed almost to the reservoir, saw the camp of the soldiers at the north end of the dam, and discovered two soldiers on guard, pacing back and forth at the foot of the dam. Dr. Hardy wanted to cross the river and do some scouting north of the soldiers' camp, but decided against it because of the risk of being discovered while fording the stream. So he and Roy sat in silence and watched the camp for many minutes.

Then Dr. Hardy cautiously led the way south. They were not more than two hundred yards from the dam and traveling parallel with it. Close beside the dam were the guards already seen, and others came into view as they proceeded. They stuck to the thickets, moving with greater caution than ever lest their presence be marked by a soldier.

Presently they came to an opening in the thicket. For a space of fully twenty-five feet there was no cover. Some flood had made a treeless channel straight through the thicket. While they were considering how to get across this space, Roy's quick eye

detected a movement in the bushes on the opposite side of the opening. He could see nothing, yet he was sure he had noticed something move. He stood as motionless as a post and stared at the spot. Now he was certain. Something slipped from one tree to another, but the leaf screen was so thick that Roy could not tell what it was. He began to imagine they were discovered and that pursuers were after them, when a form suddenly popped into view in a little opening in the bushes. It was Lew. He had seen them before they discovered him. The two parties exchanged signals. Neither had come upon anything suspicious.

Meantime, Henry and Willie had made straight for Hill Number 4. It was a rounded knob some two or three hundred feet high. A rougher place neither boy had ever seen. It appeared more like a heap of great rocks than a hill. There were big and little boulders, and stones of all sizes and shapes, all heaped together in confusion. Many of them were loose and ready to roll from their places at the least pressure. It required cautious climbing to prevent starting a slide and to keep from spraining an ankle. To add to the difficulty, great thickets of brush and tangles of briars grew everywhere. But the two boys persevered and finally got to the top.

There was almost no danger of being seen there. They searched for an opening in the brush, where they could get a view over the valley. By climbing a little tree they were able to see well. They could trace the mountains on either side of the valley and see the three other knobs that shut in their camp. They looked down on a multitude of smaller knobs and jagged heaps of rock. And they could see the entire length of the dam and the guards pacing before it.

For ten minutes Willie studied the landscape, then sat for a time with his eyes closed. Again he gazed long and intently at the country before him and for a second time shut out the actual, to view the mental, landscape. When he was satisfied he climbed down from the tree. Neither boy had seen a single thing that looked suspicious. Save for the guards, the region seemed actually deserted. But both boys knew it was far from being so.

After examining the landscape their first care was to see if a wireless station could be located on the hill. There were few trees, but finally they spied two that stood not more than seventy feet apart. Though they were the tallest trees on the hill, neither was much more than thirty-five feet high.

"We can run a rope from tree to tree," said Henry,

"and hang our detector on it. Let's see where we can put the instruments."

Half-way between the trees they found a great flat rock that was almost as level as a floor. It was as good as a table. The boys made careful note of the spot, then cautiously descended the knob and advanced stealthily toward Hill Number 1. They got to its summit after another difficult climb, for this knob was almost as ragged as the first. Quickly they found a place for their wireless, then gave their attention to the region about them. At the very apex of the hill was a high rock with a flat top on which they could stand comfortably. The screen of bushes surrounding it effectually hid them from observation, yet they could see out through openings in the thicket.

They were almost in the middle of the valley. They could see over every foot of the bottom excepting where the other knobs cut off their view. They could look over the entire expanse of the reservoir, and see the dam from end to end. They could trace for a long distance the course of the flashing river. Beside the river they spied the wood road and saw a wagon loaded with supplies advancing along it. Though they did not know it, Dr. Hardy and Roy were also watching the same wagon. They saw the supplies reach

camp and watched the soldiers stow them away. They looked closely at the camp and noted its every salient feature. Then they gazed long and carefully at the country behind the camp, particularly at the rugged shoulders of the hill where the dam abutted.

Then they turned their attention to the dam itself. Foot by foot, almost inch by inch, they examined every particle of the great breastwork. The vast expanse of concrete looked impressive as it stretched from hill to hill. And the water shooting through the gate at the northern side of the dam flashed and sparkled in the sun.

Across the narrow stream below the gate the soldiers had constructed a rude foot-bridge. And they had worn a distinct path on the stony bottom where they paced back and forth from mountain to mountain. The spring floods, sweeping in tremendous volume over the entire length of the dam, had left only rocks and stones and sand below the breastwork. For a space of a hundred feet there was hardly a green thing to be seen; and for a distance of one hundred and fifty yards below the dam the bottom was open. Neither trees nor bushes had been able to keep their footing there in the mighty spring avalanches of water. Thus there was a wide, bare belt extending along the entire width of the dam. No one could possibly cross that bare space unseen.

Finally the boys turned their glance to the south shoulder of the dam. From Hill Number 4 they had had a much closer view of this end of the dam, but now, with renewed interest, they carefully scrutinized it again.

"Henry," said Willie, "that's where the dynamiters are."

"What makes you think so?"

"Nobody could possibly approach that dam from in front without being discovered. It would be dangerous even to tunnel there. And if a person had a tunnel, how could he hide the entrance, out on that open ground?"

"He couldn't," said Henry.

"Then the dynamiters have got to attack one shoulder of the dam or the other. It doesn't stand to reason that they would go to work at the north end right in a camp of soldiers. How would they get their supplies if they did? We know they're getting supplies. And how would they rig up a wireless and operate it every night with soldiers all about? And then look at the ground itself along the north end of the dam—a smooth, even shoulder of the mountain. You can see every inch of it at a glance. No boulders, no thickets, no tangles of brush—no place at all to hide in. They've *got* to be over at the other end."

They turned their gaze on the south shoulder of the dam.

"Well, that's rough enough for anybody," said Henry, and he spoke truly.

The entire region was a mass of rocks and boulders. Gaunt, ghostly trees that had died when the soil was washed from their roots still stood upright. Dense tangles of briars were everywhere. Thickets of birch offered cover. Patches of rhododendrons made dark, black spots among the rocks. Willows had sprung up, growing in dense clumps. And masses of old logs, dead tree trunks, brush, and all the other debris of spring freshets were here and there woven and matted into almost impassable barriers among the scattered trees.

Long and carefully the two scouts surveyed this ragged region, but no slightest sign of human presence could they discover.

"We must have a closer view," said Henry.

"Look," said Willie, as they turned to descend the hill, and he grasped Henry's arm and pointed with his free hand toward the south shoulder of the dam. A crow, sailing lazily over the jungle there, had suddenly shot upward with startled calls.

"I wonder what he saw," said Henry. "Something made him shoot up and scream that way."

They went on down the hill. "We'll have to be as sly as a snake," commented Henry. "I suppose the state police went thrashing through the brush and of course they didn't find anybody. All a fellow would have to do in that cover would be to crawl under a brush heap and keep quiet and nobody ever would find him."

"Well, then how are we going to find the dynamiters, even if we do keep quiet? You may be sure they're careful to keep out of sight."

"I don't believe we can find them, Willie. But we can look for signs of their presence and give them a chance to betray themselves," said Henry as they cautiously made their way through the forest and approached the tangle at the south shoulder of the dam.

"They'd have to have their wireless out in the open," said Willie suddenly, "and it must be a stationary plant that's hidden, for they wouldn't take the risk of setting it up and taking it down every night. Sooner or later they would be sure to make a noise that would betray them."

"That's so," assented Henry, "and, therefore, their hiding-place can't be in the woods here. They *must* be out somewhere in that jumble of rocks."

"And they'd have to be close to the dam," added Willie.

At the edge of the forest the young scouts took places behind trees and stood motionless for fifteen minutes. In all that time there was not the slightest sign of life in the rocks before them.

"Not even a bird there," whispered Willie, "though I heard a vireo and a wood-pewee in the woods. Could it be that the birds know that somebody is there and avoid the place?"

Now the boys dropped to their hands and knees, and creeping behind rocks and under whatever cover offered, began to penetrate the rocky fastness. Apache Indians stealing among the rocks of their native mountains could hardly have been more stealthy. The boys crawled a hundred feet and sat down to listen. By signs Willie indicated that he would go off by himself. He pulled out his watch, put his finger on the figure five, and pointed back to the woods. Henry understood that he was to meet Willie at five and nodded assent.

The two separated. Foot by foot, yard by yard, crawling on their bellies, careful not to snap a twig or shake a bush, stopping for long periods to listen, watching sky and earth and all between, the two scouts slowly advanced toward the heart of the tangle. Once Henry found a footprint. There was no doubt of it. But inasmuch as the state police must have searched

through the region, he was not surprised. In fact he wondered that he did not come upon more such marks.

With ever increasing caution he wriggled forward through the tangle. The only thing he discovered that seemed significant was a piece of rock about the size of a hen's egg. Its edges were as sharp as a knife blade. Its faces were fresh looking. Sun, wind, and rain had never exerted their power on this piece of stone. Quite evidently it had been freshly chipped from a larger piece of rock. Henry carefully examined the ground where the stone lay and found a tiny groove or furrow in the ground. Evidently some one had thrown this stone, and the furrow in the soil was made when it struck the earth. Henry noticed the direction of this furrow and saw that the stone must have come from the direction of a thick copse of willow. But he could discover nothing further of a suspicious nature.

Meantime Willie was advancing in a similar cautious fashion parallel with Henry and on his right, nearer the open ground in front of the dam. He found nothing significant and had already turned about to crawl back to the woods, when his eye fell on a tiny gash in a willow bush. Crawling closer, he saw that it was a knife cut and had been recently made. He bent the willow over slowly to examine it and the stem

came loose from the ground. It was a branch cut from a tree that had been thrust into the ground. Tiny roots were already formed at the base of the stock. Moist earth clinging to the stem showed that there was water close to the surface of the ground. Now Willie examined the other willows in the clump. Some of them had undoubtedly grown there. But fully a dozen had been thrust into the earth by human hands. The purpose was obvious. Whoever did it was merely making the willow screen more dense.

When Willie realized this, he felt greatly alarmed. The screen must have been made for the purpose of hiding something. Willie believed it must be to hide the dynamiters' camp, though he could see absolutely no trace of any camp. If he were discovered, he had no doubt he should be killed. In absolute silence he crouched among the willows, listening with keenest attention. He heard nothing. He was sure he had not been discovered. He began to crawl slowly back to the forest. Then he thought to look for footprints. He found several faint impressions. Evidently they were not recently made. Then his eye caught a hardly distinguishable line on the ground that suggested a foot-path but was so faint Willie could not tell what it was. But it led straight into the heart of the willow

thicket—the same thicket from which Henry was certain his fresh piece of rock had come.

Willie was barely able to reach the appointed place of meeting by five o'clock. Henry was there before him. The two boys compared experiences.

"They're in here," whispered Henry. "I'm sure of it. But they're mighty clever. I've crawled all around this place and I haven't seen a thing to indicate that anybody was ever here except an old footprint and this stone. Where do you suppose they can be hidden?"

"Under some brush pile, maybe," said Willie.

"They must be tunneling," said Henry, "for the first wireless message we caught said their bore was nearly done. That means a tunnel. But if they are tunneling, what have they done with the earth? This stone is the only thing I have seen that wasn't old and weathered."

"It beats me," said Willie, "yet I am sure they are here." Then a great doubt came into his mind. "You don't suppose we could be deceived about those wireless messages, do you, Henry? They might have been all right and just happened to read the way they did when we scratched out part of them."

"One might," rejoined Henry, "but not several. No, there's no doubt about the messages. What I want

to know is where the fellows are that sent them. They must be here, and yet we can't find a trace of them."

They stood silent, watching the rocks before them. Suddenly Willie sniffed.

"Smell it?" he whispered.

"Smoke," said Henry.

The faintest taint of wood smoke was in the air. It was as intangible as ether. It could not be seen. There was almost no wind to carry it. And yet, though it was but the faintest trace, it was unmistakably the smell of burning wood. But there was nothing to show whence it came and the odor was too faint to be traced.

It was already nearly half-past five. The two scouts faced toward their camp and hastened swiftly but silently through the forest. Under the pines it was almost as dark as night. The others were already there.

A cold supper was ready. Hastily the boys ate it. A startling noise suddenly rang through the forest.

"A horned owl!" said Lew. "I saw his nest this afternoon in a big hemlock. There was a great pile of bones and skunks' tails under it. They say owls bring good luck."

"Well, we can stand a little luck," said Henry.

"We've spent a whole afternoon searching this region and we haven't done much better than the state police did."

"Did you expect to?" asked Dr. Hardy with a dry smile. "We've got to depend upon sharper senses than our own if we get these fellows. The wireless is our only hope. And we must hurry and get our stations up while there is yet light."

The entire patrol set forth for the sites selected for the wireless stations. Charley and Carl carried food. Each of the others had some part of the wireless outfits. Each had his own blankets. Soon the party separated into two groups. One group climbed each hill. The two outfits were quickly assembled, and gotten into working order before the sunset glow had faded entirely from the western sky. Then the parties sought out places where those not on duty could rest. The boys were to spell one another at the wireless.

Hours passed. The night was quiet and chilly. Every two hours the men on duty awoke their successors and sought sleep. And even the hard resting-places could not keep them awake after their long hours in the open.

At a few minutes before three o'clock, the men on duty awoke their comrades, according to agreement.

Everybody was all eagerness to hear what they hoped would be the last message the dynamiters would ever send.

As the minutes passed and the hands of their watches drew nearer and nearer to three o'clock, hearts began to beat fast. A thrill of expectancy was in the air. A subtle excitement seized every member of the wireless patrol.

Then came the awaited moment. It was three o'clock to the dot. On Hill Number 4 Willie was at the wire. He bent forward tensely as though listening hard. No vibration sounded in his ears. He bent even farther forward. He partly raised his hand as though to command silence. He waited for the message. A puzzled expression came on his face, then one of doubt, and finally of utter dismay. There was no message. For one horrible moment his heart went dead with fear. Something was wrong with his outfit. He had failed at a critical time. But he knew that couldn't be. He had tested his outfit. The trouble was not with the wireless. The difficulty was that there was no message to receive.

Five minutes passed. Ten went by. At the end of a quarter of an hour Willie turned to his captain. His face was pale in the starlight.

"They are not talking to-night. They must have discovered us," he said.

But even as he spoke his receiver began to buzz. "Quick! Bring the paper back," said Willie.

Dr. Hardy, kneeling before him, held a pad on a rock for Willie to write on. Willie's fingers began to move rapidly over the paper.

He wrote for some time, then said, "That's all. The message is from Fairview."

Dr. Hardy laid the writing pad on the ground and, holding a small flash-light close to it, crossed out the dummy words. Then he read aloud what remained:

"Your presence must be suspected. State police searched diligently for you Saturday. Report about shipment from Pittsburgh verified. Time your blow for noon Tuesday. Report your progress to-morrow night sure."

CHAPTER XVI

SCOUTING BY STARLIGHT

HAD the night been light enough to show more than the dim outline of their leader's face, the wireless patrol would have seen a look of grave anxiety on Dr. Hardy's countenance.

"Time your blow for noon Tuesday," he muttered. "That shortens our time at least seven hours—and we had hardly enough as it was."

For several moments he remained sunk in deep thought. No one spoke. Above, the stars shone bright. A gentle wind sighed through the trees. The camp was quiet with the silence of a high place. At last the leader spoke again.

"Our only hope is in to-morrow night's wireless message," he said. "With their job so near completion the dynamiters will never risk detection by leaving their hiding-place. They'll stay holed up closer than a woodchuck. It's entirely up to the wireless. How true do you think your detector will point, Willie?"

"It all depends upon the accuracy of the operator, sir."

"Ah! That's what I thought. The slightest error here will throw us rods out of our true course in half a mile. But it's the wireless or nothing. Those fellows are so carefully hidden it is useless to hunt for them until we have located them by wireless."

"It might be useless to-morrow," said Roy, "but not to-night."

"What do you mean?"

"I mean that if they have to hide all day, maybe they'll come out at night. They may be cramped for room and want to stretch or need fresh air. We know some of them are awake now to receive their message. If they do come out, they won't be half as cautious as they are in the daytime."

"Very true, Roy. That hadn't occurred to me. But it doesn't help us any. Even if they are out, we can't locate them at night—not in these strange woods."

"I think I could find my way through them," said Willie.

Dr. Hardy laughed softly. "You think so, Willie, but you'd be lost in ten minutes."

"No, no," protested Willie. "I studied and studied

the place this afternoon and I know how every foot of it lies."

"If Willie says he can find his way, Captain Hardy," said Lew, "I am sure he can. I never saw anybody who can carry a landscape in his mind like Willie. And I am sure I can find my way around, too. The guides in the Maine woods taught me how to travel in the dark. Maybe Willie and I could find out something worth while. May we go?"

"I should not feel right about letting you try it, even if you could find your way around. Some harm might befall you."

"Wouldn't this be the very safest time to go?" said Roy.

"What do you mean, Roy?" asked Dr. Hardy.

"Why, just this. The guards can't possibly see anybody in the woods, and if the dynamiters were out and discovered that somebody was prowling about, they'd think it was the state police and hide. They would never risk attracting attention by fighting."

"I believe you're right, Roy. But if anybody goes, I must go, too."

"Can't I go?" begged every boy in the party, seeing their leader about to adopt the suggestion.

"No," said Dr. Hardy. "You can do most for the

success of this expedition by staying here and keeping quiet. I am going and I shall take ——"

"Take me," chorused the group.

"I shall take Willie. He is the only boy here who has been in the region where we think the dynamiters must be. Got your pistol, Willie?"

Then the leader turned to the others. "When it is light enough for you to see well, make your way back to camp. Be careful not to make a noise. If you do, you may put Willie and me in great danger. We will meet you there at five-thirty."

Without another word the two scouts began to descend the hill. It was a long and tedious climb, but finally they reached the bottom without mishap and without making a noise. Down in the bottom it was much darker than it had been on the hilltop. But Willie was not at fault for a second. He headed straight for the willow copse, which was reached in a short time.

With extreme caution the two approached the copse. Willie was ahead, often feeling the way with his fingers, lest he tread on a stick and make a noise. Gradually their eyes became accustomed to the thick darkness and they moved with more certainty. But their approach was still very slow.

The copse itself was a dense growth two or three hundred feet in width. A number of large willow trees spread their darkening and concealing canopy overhead, and thick around them and even under them grew bushy forms of willows. The heart of the copse was comparatively open, but here rocks were piled together in indescribable confusion. In places they were heaped twenty feet high. There were little stones and big boulders. Here and there rose the gaunt skeletons of trees long since dead; while others lay crisscross or were wedged among the rocks, helping to form an almost impenetrable barrier.

Willie began by circling the copse, creeping slowly around it, just without the dense growths it was so difficult to move in. Every few minutes the two scouts stopped and listened. For a long time they heard nothing suspicious. But almost as they finished the circuit of the copse, distinctly they heard a heavy thud. It sounded like a large rock dropping a few inches on another rock. Captain Hardy reached forward and gripped Willie's arm.

"Shh!" he hissed, and the two stood as silent as the rocks about them.

After five minutes there came a sharp metallic sound, as though two pieces of metal had met. The

sound was distinct though hardly more than audible. It was so faint that neither scout could determine from which direction it came. But both believed it must have come from the heart of the copse.

Willie sank to his knees, felt the ground ahead of him and crept forward a rod. Captain Hardy glided after him. Again they listened. They could hear nothing. Another rod Willie advanced. They were worming their way through the thick fringe of bushes. Once more they stopped to listen. The next advance was brought to a sudden halt. A great rock barred the way. Willie rose to his feet, slowly and cautiously, and felt upward along the rock. He could not reach to the top. He turned to the right to creep around it.

Just as he was feeling out his first step, a voice sounded faintly through the copse. It was a deep, guttural voice. The speaker talked in tones so subdued that the listening scouts could barely make out the words.

"Maybe the insulation's worn off," said the speaker. "Something's gone wrong. I could hardly hear tonight."

Silence followed. Then came the faintest of scratching sounds. A moment later a second voice spoke.

"Here's the place," said the voice.

There followed low and indistinct noises.

Willie reached back and touched his captain. Then he continued his way around the rock. His previous efforts at caution were as nothing to the care he now took. He ran his fingers gently over the ground before him. He felt through the air ahead and above him to make sure he would bump into no dead branch and snap it. Sometimes he had to wriggle prone under a limb or tangle of branches. Again he rose and stepped cautiously over a prostrate tree. All the while he kept within reach of the rock.

He came to the edge of the rock and stole carefully around it. His next step took him plump into a second great rock. It was so dark he could see almost nothing. The rocks before him appeared like a black wall. He could not see the openings between them as he could have done in the daylight.

It seemed to Willie he was an hour getting around the rocks. His heart beat so hard with excitement that his hand shook as he felt his way along. But he was not afraid. His captain was with him and Willie was not conscious of any fear of harm. But his every nerve was aquiver. He remembered what Captain Hardy had told them at the camp-fire of the excite-

ment of a man hunt. Willie knew now what he meant. This was a man hunt, and Willie had never known anything to compare with it.

He went on, a foot at a time. Now a fallen tree barred his way. This was worse than the rocks. Rocks made no noise when hit. A dead limb might break off with a snap that could be heard a quarter of a mile. Willie worked his way among the dead limbs to the trunk of the tree. He had hardly made a sound. He lifted one leg over the tree trunk and dragged the other slowly after it. Behind him Captain Hardy glided like a ghost.

Willie got past the tree. He had penetrated into the jungle not more than fifty feet. It seemed to him that he had crawled for miles. He began to fear he had lost his way and passed the copse. Then suddenly he came to a dead stop. Again a voice was audible. It was the deep guttural voice that had spoken first. But Willie could not distinguish what was said.

The two scouts remained motionless, straining their ears, scarcely breathing. But they could not tell what was said. Then there came a sort of rustling sound and Willie crept forward. In front of him the way lay open. He seemed to have gotten into an aisle between the rock masses. He advanced as fast as he

could go without making a noise. A sneeze sounded in front of him.

"*Gesundheit!*" said the deep, guttural voice.

Willie moved onward. Then he stopped short, his heart beating wildly with fear. From somewhere close at hand, seemingly almost under his nose, came a rattling sound, like the shaking of seeds in a dry pod. "Whir! Whir! Whir!" went the sound.

In the darkness ahead of him he heard an oath. "Another of those American snakes," muttered a deep voice. "Stand still. You may tramp on it."

A light flashed in the thicket. It darted here and there over the ground. Willie felt Captain Hardy's hand on his shoulder. It dragged him back and down. Willie sank prone to the earth.

"Whir! Whir! Whir!" warned the rattlesnake.

Never had Willie been so terrified in his life. He wanted to cry out. He wanted to run. He wanted to dash out of the thicket. He wanted to do anything to get away from that awful thing before him in the dark. If only he could have seen the rattler, if only he could have known exactly where it was, he would not have been so terrified. As it was, he was almost panic-stricken. But with all the force of his mind he gripped himself.

"I mustn't make a noise; I mustn't make a noise," he kept telling himself. "Not even if he bites me."

The rattling ceased. The flashes were no longer visible in the thicket. Willie lay like one dead, frightened as he had never been frightened in his life, but fighting down his fear with all his will. He wanted to move and was afraid to do so. He was fearful of stepping on the snake. So he lay quiet and tried to get command of himself.

Behind him he heard a hardly audible rustle in the bushes. Then a hand clasped his ankle. Willie started with fright at the touch. But he made no sound and moved not so much as an inch. The hand gently pulled his foot. Willie understood that Captain Hardy wanted him to draw back. He slid backward a foot or two. All was quiet. He moved again. There was no sign from the rattlesnake. Gradually Willie's confidence returned. He faced about and followed his leader. Rapidly they glided from the copse. Once outside its gloomy depths they saw that it was growing light. Day was at hand. Swiftly they gained the shelter of the forest and plunged into the pines.

"Now we know where they are," said Captain Hardy, "and we can take them when we like."

At camp they met the remainder of the party. The other groups had arrived just ahead of them.

"Did you find anything?" chorused their comrades.

"We didn't actually see anybody," replied Captain Hardy, "but we heard voices and we know about where the dynamiters have their camp. We can find them at any time now."

"Did you have any adventures?" asked Lew.

"We came very near death," said Dr. Hardy solemnly. "At least Willie did. He crawled almost on a rattlesnake, and when the snake rattled Willie never made a sound. It was the bravest thing I ever saw. I was so startled myself that I almost cried out."

"Dr. Hardy," said Willie, "I was so scared I couldn't make a noise. I wasn't brave at all. I never was so frightened in my life."

"Willie, you know what I told you once before. The brave man is not the fellow who never feels fear, but the man who fights down his fear. I know whether you were brave or not—lying there without making a sound when that snake was rattling almost under your nose."

The boys crowded around Willie for details of his adventure.

"Let's have some breakfast," said Dr. Hardy.

"Then we'll sleep for a few hours so as to be fresh when we go after the dynamiters. They're a desperate pair, I've no doubt, and we shall have our hands full."

CHAPTER XVII

A FRUITLESS SEARCH

THE sun was just sending its long rays between the trunks of the trees when the wireless patrol wrapped themselves in their blankets. But despite these slanting rays of light it was dusk under the pines. In no time the boys were asleep, and not a soul stirred until Dr. Hardy awakened the party shortly before noon. Then they scrambled out of their blankets and were soon seated about their improvised table, stowing away a hearty meal.

Their leader looked serious. "Boys," he said, "I've been thinking the situation over, and I believe we shall have to let the soldiers finish our job. It's going to be a very dangerous undertaking to try to capture two such desperate fellows as these dynamiters, and I ——"

A chorus of indignant protests greeted his suggestion.

"The soldiers have had their chance," said Lew.

"I know, boys, but you don't realize the danger of

the situation. We're dealing with desperate men who won't stop at anything—even murder. I'm responsible for your safety, and I cannot take any chances that might result in harm to you. I shall have to turn this job over to the guards."

"Yes, and let them have all the credit," said Lew bitterly. "If I were the commander of this patrol, they'd never know a thing about it until we handed the prisoners over to them."

"Lew," said Dr. Hardy seriously, though his eyes twinkled, "do you know what they do in the army with privates who criticize their officers?"

"I beg your pardon," said Lew. "I never meant to criticize you, Dr. Hardy. But it makes me mad to think of their getting our prisoners."

"They haven't got them yet," said Dr. Hardy, "nor have we."

"No," said Willie, "and they won't be so easy to get, either. The state police went right past their camp and never found them. But now that we know where they are hidden, we ought to be able to find them all right."

"Suppose we told the guards and they couldn't find them," said Roy. "What would they say to us? And what would happen to the dam?"

"Roy," said Dr. Hardy, "you're the keenest young rascal I ever knew. You always hit the nail on the head. But they can't escape capture this time—now that we know where they are."

"*Do* we know where they are?" demanded Roy.

"Well, no," admitted the leader, "not exactly. But we are certain they are in that copse. If we tell the guards that, they can't fail to find them."

"The state police didn't find them," urged Roy.

"It's our business to make sure that the dam isn't blown up and to save Elk City," said Henry. "We oughtn't to be thinking of our own safety now. Roy may be right. Perhaps the soldiers couldn't find them."

"I'll tell you what we'll do, boys," said Captain Hardy with sudden decision. "We'll first make certain where the dynamiters are. There will still be time enough to call in the soldiers after we find them. And that ought not to be very hard to do. Beyond a question they've dug a tunnel to the shoulder of the dam. They've got to do something with the earth and rock they excavate. What bothers me is how the state police could have failed to find them."

It was all the wireless patrol could do to keep from cheering the leader's announcement. In an instant they were afire for action.

But their spirit underwent an eclipse a moment later when Dr. Hardy said, "I shall take Henry, Willie, Lew, and Roy with me. The rest of you must remain quietly in camp."

A murmur of disappointment arose among those not included in the list of scouts.

"I'm sorry I can't take you all," said Dr. Hardy, "but you must remember that this is something besides a pleasure trip. We are all here for one purpose —to save the people of Elk City. And every one of us must be ready to do the part he can do best. I have chosen these four boys as scouts because they have shown the most ability as woodsmen. This is a matter where we cannot afford to risk failure. You boys will help along best by remaining quietly in camp and seeing to it that no one knows of your presence."

Then he turned to his four scouts. "Get your pistols and your compasses," he said.

In a moment more the little band of scouts were slipping silently through the forest, walking in single file behind their leader. They passed swiftly through the pine forest and came to the edge of the open space below the dam.

"Take a good look at that willow copse," said Dr. Hardy. "Note the landmarks about it. Observe how

the land lies. In that copse the dynamiters have the entrance to their tunnel."

The patrol looked at the willow thicket long and carefully. Then they made a détour so as to approach it from the side on which it adjoined the forest.

At some distance from the copse Dr. Hardy halted his squad. "There are four of you," said the leader, "and I want one of you to steal into the copse from each side. Henry will come in at the west, Lew at the south, Roy at the east, and Willie from the north. I am going to stay with Willie. It is absolutely necessary that we should not be discovered. We shall have to be as silent as snakes. I want each of you to work your way from the edge of the copse toward the centre. Take plenty of time. Don't make any noise. Look carefully ahead of you. Stop and listen frequently. Crawl or creep if necessary. Hide behind every shelter that offers. And be on the watch for footprints, cuts on trees or bushes, and especially fresh earth and bits of rock like the fresh chip Henry picked up near here."

Through an opening in the trees Dr. Hardy turned and once more carefully surveyed the mysterious thicket. "Do you notice that tall, dead tree?" he said, pointing to a gaunt ghost of a dead giant pine

that still stood in the middle of the copse, towering high above all the other trees.

Each boy looked at it carefully.

"We will meet at that tree," said Dr. Hardy. "Let the boys who get there first wait for the others. Pick out some shelter and hide in it. Above all do not make a noise."

The leader pulled out his watch. "It is twenty-five minutes of two," he said. "You will go to your stations and at two o'clock exactly begin your search. Now, off with you. Remember, at two o'clock precisely."

The instant the boys were out of sight, Dr. Hardy turned to Willie. "I kept the north side for ourselves," he said, "because we came from that side last night. I want to enter the copse by exactly the same route we did then. It will take us directly to the dynamiters' cave and I want to get there and have a look at the place before anybody else comes near. Do you think you can take me over last night's path?"

"Yes, sir," said Willie. "I am sure I can."

"Well, you watch the trail carefully. Be very sure you don't lose it. I'll watch for signs of men in the copse. But I don't think we shall see anybody. Roy

was doubtless right when he suggested that the dynamiters come out at night and stay close in the daytime."

Cautiously they skirted the willow thicket. Willie was looking for a certain opening in the bushes. When he found it, he slipped into the copse. One or two footprints at the edge of the thicket showed that he had hit their old trail exactly. But when the two had gotten fairly inside the copse, there was no mark or footprint to be found. The leafy floor of the thicket had taken no distinguishable impression the night before.

But Willie was not hindered by lack of footprints. He knew how he had directed his course in the night. Closing his eyes from time to time, he recalled his unseen trail. He remembered where he had crawled straight and where he had inclined to right or left as some obstacle was encountered. And now, trusting to his memory, he was able to follow every twist and turn of his previous exploration.

But in the daylight the passage was as swift as in the dark it had been slow. There was no blind groping, no feeling for bushes ahead and aloft. So the two passed speedily into the thicket.

Soon they came to the great rock that had hindered

them so the night before. It towered high in air. Again Willie worked his way around it and through the fallen tree. Then he came to the open aisle among the rocks.

Dr. Hardy leaned close to Willie and whispered in his ear. "I want you to go to the exact spot where the snake stopped us, if you can. We know the direction from there to the voices we heard."

Willie nodded and pushed cautiously ahead. Closely he examined the ground. He even ran his fingers over it in search for depressions. Presently he found a place where a hole had been worn through the leaf-mould. It was where he had dug his toes into the sand while fighting with his fear. Until this moment Willie was not conscious that he had moved at all. He stood up and faced his leader.

"Somewhere straight ahead of us," he whispered.

"Have you any idea how far ahead?"

Willie answered with a silent shake of his head. Then Willie again thought of the snake and scanned the ground hastily. But his glance was not now because of fear. The snake had all but betrayed them once before. He did not intend to let it do so again. But there was no living thing in sight.

They pushed ahead once more, but now their prog-

ress was very slow. They had slipped to their knees and were advancing a few feet at a time. They halted and listened and looked carefully in every direction. Then they went on again. So they pushed through the little aisle among the rocks.

Just ahead of them was a pile of rocks, tumbled together in the greatest confusion. Rocks lay prone on the ground. Boulders stood on end like giant tombstones. Massive heaps of stones were piled together. They seemed as solid as the everlasting hills. They appeared to have been undisturbed since the beginning of time. Among them crooked trees had sprung up. Great stones were embedded in the projecting roots of other trees. Prostrate giants of the forest lay rotting among the boulders. Briars grew in dense patches between the heaps of rocks. Indescribably wild was this almost impenetrable tangle.

"I think their tunnel comes out there, probably," whispered Dr. Hardy. "Be very careful."

They approached the rock mass with extreme caution. From behind a fallen tree they surveyed it in silence for some moments. Then they edged forward. A foot at a time they penetrated into the rock heap. Willie was still ahead. Carefully he tested every rock and stone before he put his weight on it. He drew

one leg slowly after the other. He was careful to plant his feet firmly so his shoes would not slip. Behind him his captain glided along. Ten feet away one could not have heard them.

Their advance was very slow. They climbed over some rocks and slipped around others. They wormed their way through the fallen trees. They made little circuits to avoid the briar patches. But ever they moved, silent and alert, toward the spot where they thought they had heard the voices in the darkness.

They went on and on. A puzzled expression came over Dr. Hardy's face. He touched Willie on the shoulder and signed for him to stop. Then, hidden behind a great rock, he surveyed everything within the field of vision. With his powerful glasses he swept every foot of the ground. He examined one rock after another. He investigated the cracks between rocks. He looked again and again for footprints or signs of human passage. But he discovered nothing.

Now he looked aloft, scanning the branches of the trees. He saw nothing enlightening. He was looking for the wires of an aerial. He saw none, nor could he see any place to stretch them, excepting perhaps from the near-by dead pine that was the appointed

place of meeting. But there was nothing suspicious about the tree.

With a motion of his hand he indicated that he wished to circle about the rock heap. Willie swung to one edge of it and began to work his way around it. They went very slowly. Time and again Dr. Hardy dropped to his knees and felt around and under the rocks. But he found nothing. The look of wonder grew stronger on his face. Again and again he examined the place, like a dog casting about to pick up a lost trail, but he could find nothing.

Presently he pointed toward the dead pine and Willie headed in the direction indicated. As they approached, they saw that the tree stood on a considerable mound, which was one reason why it towered so high. There was no other tree on the mound. In fact, the space around the tree was almost bare of tree growths for a considerable radius. Evidently the towering tree had cast so dense a shade that no trees had been able to survive beside it. So the gaunt, stark trunk thrust upward through this opening in the leafy canopy of the copse, like the flagpole of a circus tent sticking up through a ring in the canvas.

For some time the two scouts surveyed this peculiar formation. The mound was far higher than their

heads. Completely encircling its base was a rough ring of boulders and stones. Among these and in dense masses on the mound were great patches of rhododendron. Despite the light that came down from above, through the opening in the trees, these bushy growths made the mound dark and forbidding in aspect. Here was a place as favorable for the purpose of the dynamiters as the rock mound just examined. In fact, the dense gloom of the place made it even more suitable.

Not a foot of the mound that was within their field of vision went unobserved by the two scouts. Presently they moved a quarter of the way around the mound and sank down for further observation. Dr. Hardy thought he detected some marks in the soil that needed closer examination. He crawled cautiously toward them. He examined them closely and felt of them with his fingers. But he could not be sure that they were footprints. What attracted him even more than the slight visible depressions was the fact that the leaves for a yard around were turned up loose as though a bird or a chicken had been scratching gently in them. Elsewhere the leaves were matted down smoothly.

The place that was scratched up was immediately in front of a great flat rock. Dr. Hardy took hold of it

cautiously and tried to lift it. He might as well have tried to lift the entire mound. Apparently the stone weighed a ton or two.

"Nobody could ever move that," he said to himself.

He motioned to Willie and the two were just starting to go farther when they heard the slightest possible noise. It seemed to come from the centre of the mound. The two sank down to the ground, crawled behind the nearest trees and sat motionless, listening and watching. Five minutes passed. Then came another sound like the first, but slightly louder. Even then it was so faint that under ordinary circumstances it would not have been noticed. It sounded like something striking the rock ever so gently.

Minute after minute passed. Presently there came an almost indistinguishable rustling in the rhododendrons atop the mound. Both scouts shrank farther behind their trees and peeped out with extreme caution. Presently something moved under the rhododendrons. But the motion was so cautiously made and the thing moving so well hidden that neither observer could tell what it was. They lay motionless, every nerve taut. Suddenly the bushes began to separate. They opened farther and farther. A figure was moving cautiously through them. A slight rustle by his side drew Willie's

attention for a second to his companion and he saw that his leader was drawing his revolver. Quietly Willie slipped his own pistol from its holster. The figure was now plainly discernible, but in the dusk of the rhododendrons it was impossible to tell anything about it except that it was a human being.

Cautiously the moving figure came on. The watchers almost held their breath. What was this dynamiter like? Was he alone, or would others follow him? Willie asked himself these and a hundred other questions. His heart pounded so it felt as though it would burst. His temples throbbed with excitement. And just when it seemed as though he could endure the tension no longer, the figure moved from the dense shade into a patch of sunlight. It was Henry.

Both Dr. Hardy and Willie sighed audibly, and Henry heard them. Instantly he crouched down and ran his eyes to right and left. Dr. Hardy raised his hand and then looked out boldly from behind his tree. He motioned to Henry to join them.

"Did you find anything?" he whispered.

Henry shook his head. "Did you?" he asked.

The reply was another negative shake of the head.

They retired into a dense thicket of rhododendrons and awaited the coming of the others. Within fifteen

minutes the other scouts appeared at the dead pine and were signaled to join the hidden group. Not one of the scouts had found any indications of the dynamiters' tunnel.

Dr. Hardy rose and led the way from the thicket. Like ghosts the five scouts glided through the copse into the sheltering forest. When they had gone some distance, Dr. Hardy spoke.

"We have been entirely deceived," he said. "The dynamiters are not in that copse. The men we heard must have been passing through the woods like ourselves, and we chanced upon them."

"But what did they mean by talking about their wires and the insulation being worn off?" asked Willie.

"Willie, I was absolutely certain that they were in that thicket," said Dr. Hardy. "I was sure that they had a cave with their wires running out from it. But it can't be. We've combed every foot of that copse and there's no sign of human presence. We have been deceived; that's all. They must be elsewhere."

"But that ground-wire?" persisted Willie.

"Yes, I know. I heard what was said as well as you. But it must have been a wire they had put up temporarily. There is no wire in the woods now.

There is no cave or tunnel. There is no sign of human presence. We must believe the evidence. The dynamiters were in the thicket last night but they are not there now. Their cave must be somewhere else. It is too late now to hunt for it. Our only hope now is the wireless."

CHAPTER XVIII

WHERE THE WIRELESS POINTED

DARKNESS found the two groups of Camp Brady boys—Henry's division on Hill Number 1 and Captain Hardy's on Hill Number 4—both eager and reluctant. They could hardly wait for the expected message in the air, which was to guide them to their quarry; yet they almost dreaded to receive that message lest by some chance they fail of their purpose. Their lack of success thus far had dampened their ardor and decreased their confidence. Now, as the fateful hour drew nearer, they thought less of the adventure on which they were embarked and more about the awful consequences of failure. So they looked forward to the voice in the night with mingled feelings of hope and fear.

But except for the men on duty at the wireless keys, the band of scouts had little time to think about what lay before them. Dr. Hardy had issued orders that all should be called and be ready for duty before three o'clock.

But before the two divisions left camp for the long watch on the hilltops, there had been lively discussion as to what course should be pursued.

"I think we should try to locate the dynamiters the minute they are through talking," argued Roy. "We know they'll likely be out then; and they're easier to find when they're out than when they're hidden, even in the dark."

"But suppose we make the effort and fail," urged Henry.

"Well, then we can try again in the daylight," returned Roy. "We don't belong to the union and don't mind working over-time."

"It gives us two chances to locate them," said Dr. Hardy. "We'll stake out our directions, as we did at Camp Brady and Prospect Hill, and if we can't travel straight in the dark, we can try it again in the daytime. With our flash-lights and my two luminous compasses, I think we can travel pretty straight. At any rate we will make the attempt."

So the details of the adventure had been planned, every contingency that could be foreseen had been guarded against, and the wireless patrol was ready, when the last word of the expected message should be recorded, to start once more on the trail of the dynamiters.

And to the tired boys lying among the rocks on the two hilltops the time between nine o'clock and three seemed short enough. Yet the instant the man on duty touched him on the shoulder, each member of the two wireless patrols sprang to his feet, threw off his blanket, and speedily prepared himself for the task ahead.

Dr. Hardy made a final examination of his capacious pockets and made sure that his little first aid kit was not forgotten, that his pistol was loaded and in its place, that the stout thongs he had prepared were ready, and his luminous compass and his flash-light in place. And every member of the patrol, on each hill, likewise saw to it that his electric torch and his pistol were in readiness for action. Henry had, in addition, the second luminous compass.

His preparation complete, each boy took out his watch and in the starlight counted the minutes as they slowly passed. And slow indeed was their passage. It seemed as though three o'clock would never come. But at last the hour was reached. In Captain Hardy's camp Willie sat with the receivers strapped over his ears, while Henry was listening at the station on the other hill. And at each camp a boy stood ready with hatchet and stake to record the direction indicated by the detector.

As their receivers began to buzz, the two operators swung their exploring coils and rapidly decided whence came the call; and two boys leaped at the words of command and drove down the stakes which should point the way to the hidden miscreants.

The minute each operator had made certain of his directions, he began to write down the words that were speeding through the night.

On Hill Number 4 Captain Hardy stood at Willie's elbow, holding a carefully shaded electric torch above Willie's pad. The instant Willie indicated that the message was complete, the leader seized the pad and hastily deleting the dummy words read the radiogram aloud.

"Apparatus out of order last night," it said. "Could not get it fixed in time to talk to you. Barely heard what you said. Everything favorable here. Work now easy. Will be ready by forenoon. Will finish job at noon exactly."

"Ah!" went on Captain Hardy. "Those *were* the dynamiters we heard last night. They unquestionably had their wire strung up in the willow thicket. But they must have taken it down after using it."

"I don't know," said Willie doubtfully. "They could put it up and take it down every night, but I

suspect they have a secret wire that they don't move."

"But their aerial?" said Dr. Hardy. "We saw no trace whatever of any aerial."

"That could be concealed, too," said Willie. "I looked everywhere for it, but I couldn't see anything that even suggested a good hiding-place."

Again Willie's receiver began to buzz. It was exactly three-fifteen—just as it had been on the other occasion when the Fairview plotters had sent a message, for this message was from them. It was very brief. "State police gone," it read. "Coast clear. Finish work at time set."

Dr. Hardy seized and read it. "One thing is certain," he said. "Our presence is not suspected. The dynamiters will not be on their guard. Everything is in our favor. We must not lose an instant."

Carefully Captain Hardy read and recorded the bearing of the secret wireless station. Then he turned to Carl.

"Go down the hill as nearly as you can in this direction. When you are down, show your signal and we will direct you."

As well as he could in the starlight, Carl examined the route pointed out by his leader. He selected a

landmark at the foot of the hill exactly along the line of march. Then silently but swiftly he made his way down the hill. He found his landmark and turned with his face toward the hill. Then he pointed his flash-light toward his own breast and holding it close to him, pressed the button and illuminated a metal disc pinned on his coat. For a moment he stood thus, then snapped off his light and waited. From the hilltop came almost at once the soft note of a night-hawk. It was Charley signaling that Carl's position was correct. At the first trial Carl had hit the line.

Now he stood without moving an inch, and waited for his leader to reach him. When Captain Hardy had descended the hill and reached Carl he indicated again the line of march and Carl once more went onward. He was heading straight for the willow thicket.

Captain Hardy came up and another link was added to the steadily lengthening chain that was to lead to the dynamiters' tunnel. Then another and another link was added until the party found itself almost on the edge of the willow copse.

"It's going to bother us to keep this line straight when we get into that tangle," whispered Captain Hardy. "We'll have to make our links short. We'll wait now for Henry to get up. He can't be far away."

They stood quietly waiting in the dark. Suddenly Willie came close to Dr. Hardy and whispered in his ear.

"I've got an idea," he said, "and I want to see if there is anything in it."

"What is it?" asked the leader.

"May I see the compass?" said Willie. "Then I'll tell you."

Captain Hardy showed him the instrument. "Our bearing is there," he said, indicating the direction on the luminous dial.

"Will you set the compass on the ground, exactly on the line?" asked Willie.

Wondering, Dr. Hardy complied. Willie laid himself at full length behind the compass, and began to peer toward the thicket.

"There it is," he muttered.

Then he began to sight over the compass, as though he were aiming a rifle. For fully half a minute he squinted across the dial. Then he leaped to his feet. He was evidently tremendously excited.

"Look," he whispered eagerly to Captain Hardy. "Look along the line and see if you see it, too."

Mystified, Captain Hardy stretched himself out on the ground and sighted across the compass. "What is it?" he asked, puzzled.

"Look at the sky-line," said Willie.

Captain Hardy ran his eye slowly along the sky-line of the willow copse. Almost in the centre of it a gaunt, leafless tree form towered aloft. Then he sighted across the compass. The bearing they were following led straight to the tree.

"The dead pine," said Dr. Hardy, "the dead pine. And our line points directly to it."

The word passed through the little group that the compass pointed to the pine. Every boy in the party diligently scanned the sky-line of the copse to get a glimpse of their goal.

"We must wait for Henry," whispered Dr. Hardy, "and see where his line points."

They had not long to wait, for the cry of a night-bird sounded near and nearer. In a few moments more figures became visible in the dark. Henry's party came up. Dr. Hardy took the compass from Henry's hand and set it on the ground. Then he threw himself at full length and eagerly peered over the dial.

"There can be no doubt of it," he said, so eagerly that he almost spoke aloud. "Henry's line, too, leads straight to the dead pine!"

CHAPTER XIX

THE SEARCH IN THE DARK

WITH a sigh that expressed both anxiety and relief, Captain Hardy quietly ordered the patrol to follow him. He led the way back into the woods a distance, where they could talk freely.

"Willie," said Dr. Hardy, "you have rendered a splendid piece of service. The discovery of our goal before we got into the copse saves us from untold difficulties—and perhaps may save our efforts from failure. I commend you for your head-work."

Willie's cheeks flamed with color at this high praise, but in the dark no one could see his confusion. "I am very glad," he said. "But it wasn't anything anybody else couldn't have thought of."

"Has any one any suggestion to make as to how we shall approach the dynamiters?" asked the leader.

"Why not divide into four groups?" said Roy, "and approach the pine-tree from four sides, just as we did yesterday afternoon?"

"Now that we know exactly where we are heading

for," said Dr. Hardy, "that won't be necessary. Besides, we must keep together. We haven't actually found these desperadoes yet, and we may still have to hunt for them after reaching their wireless. We can't risk calling in the soldiers now. We shall have to see this thing through ourselves, and ——"

Despite their situation and the force of discipline, the wireless patrol could hardly repress their enthusiasm. As it was, they gave vent to exclamations of joy far louder than were safe. For instantly each member of the party felt that thrill of excitement surge through him that belongs to a man hunt, and that Willie had experienced in the willow copse. Every boy in the group was afire with eagerness.

"Who can take us to the dead pine most surely and quietly?" asked Henry, when the excitement had abated a trifle.

"Willie, beyond question," said the leader. "He has been over the route twice, once in the dark."

"Then why not let him lead the way?"

"We'll do it," replied Captain Hardy. "I will march just behind him. Carl is to follow me. Then you come, Henry. The rest fall in as you like. We will march in single file. Try as you have never tried before to be quiet. When we get into the thicket we

shall advance slowly and cautiously. Let no one speak aloud. Do not use your flash-lights. We must reach the pine-tree undiscovered. What we shall do then depends upon circumstances."

A thrill of eager expectancy ran through every boy in the group. Each could feel his nerves tingle in anticipation of the adventure before him.

"If it is necessary to shoot," went on Captain Hardy, "let Carl do it. I will give the word. If he shoots and fails, the rest of you may fire. But be very careful where you aim. You must not hit one of your comrades and you must hit the dynamiters. They are such desperate fellows that if we have to fight it will be our lives or theirs. Shoot then to kill. See that your pistols are ready for instant use, but do not let them drop from your holsters. Does everybody understand?"

A murmured response indicated complete comprehension and readiness.

"Very well. Fall into line. Keep your places. March."

Slowly and with extreme care the little patrol glided through the forest. Willie, in the lead, was using the utmost caution he knew how to exercise. His eyes had grown accustomed to the darkness, and the star-

light was sufficiently strong to enable him to see with fair distinctness. The patrol went straight toward the willow copse.

At the edge of the thicket they halted. For five minutes they stood still, listening to every sound of the night. From afar came the chorus of the frogs. The myriads of insects flashing through the air made a shrill monotone. Tree-toads croaked. In the distance a whippoorwill sent forth its weird cry. Night-hawks were heard. Bats flitted here and there. But no slightest sound of man's making was audible.

The party moved forward. Willie led the way along the edge of the copse until he reached the opening through which twice before he had entered the tangle. By this time he knew the way so well that he could see every foot of it in his mind. But he went ahead with greater caution than he had ever used. Again he felt his way forward, touching the ground here and there with his fingers to make sure he did not tread on any sticks. It took no little courage to do so. He could not help thinking about the crawling death he had so nearly crept upon in the darkness of this very copse. The memory made him shudder. But he thought over the lessons in first aid he had had at Camp Brady the preceding year, decided exactly what

he should do if he were bitten, and gritting his teeth, pushed on.

Captain Hardy hung close to his shoulder. The others were strung out at longer intervals, for the way was new to them, and under the willow canopy it was densely dark.

Through the thicket to the great rock Willie pushed ahead rapidly. Round the rock and over the fallen tree he made his way more slowly. At the tree Captain Hardy paused and whispered a word of caution to Carl. He passed it on to Henry. So the word went back along the line, and no member of the party snapped a twig or made any other alarming noise in getting through this bristling obstacle in their path.

Again Willie made his way down the aisle among the rocks, and little chills crept over his skin as he neared the spot where he thought the rattler had lain. He went slower and now he felt his way with a short stick he had picked up. But he was no less cautious or careful. Then the rock heap was reached and passed in safety. So slow and cautious had been the approach that not a boy had made a noise that would have been noticeable twenty feet distant.

Willie had just passed the rocky pile when he felt his leader's hand on his shoulder.

"Wait," came the almost indistinguishable whisper in his ear. He stood like a stone, staring through the darkness, straining his ears for telltale noises. But only the croaking of the frogs and the hum of insects came to him. He tried to locate his captain, but Dr. Hardy was not within reach. Behind him Willie heard a faint rustle. Then figures became visible in the darkness, and Willie knew that his captain had halted him to give time for the patrol to come up. Figure after figure joined the group until all were there.

"Get on your knees and creep part way to the pine-tree," came a faint whisper in Willie's ear. "Then lie down and listen."

Behind him Willie knew that the command was being passed along from man to man, but he could hear not so much as a syllable of the whispered communications.

He sank to his knees. He felt of the ground before him. Then he crept silently over the space he had explored. Once more he felt out his path and advanced. No wood-mouse, no bird on wing, no gliding serpent could have moved more quietly than did Willie. And behind him, advancing with equal caution and slowness, crept the wireless patrol.

Yard by yard Willie went forward. The way grew lighter as he approached the mound on which stood

the dead pine. Through the opening in the leafy canopy the pale starlight filtered. Dimly Willie could see the great trunk of the pine towering aloft and thrusting up through the gap in the thicket roof. He sank prone to look and listen.

To right and left of him he heard from time to time faint rustling sounds that might have been made by a toad or a mouse, but nothing suggestive of human passage. Yet his fellows were crawling to either side of him, slowly and cautiously, to encircle the tree and watch, as he was watching. After a time the rustling ceased and all in the thicket was still.

Now Willie began a detailed study of the space before him. Beginning as far to one side as he could see, he swept his eye slowly across the starlit space. Every rock and swamp, every inequality in the ground, every projecting hump in the great mound before him, Willie studied intently. He was looking to see if any of these things moved, if any of them might be endowed with life. He was waiting for stumps to turn into men, just as the pioneers of old watched for the tree bases about their forts to rise and rush forward. But nothing moved, nothing stirred, nothing broke the stillness of the night save the droning of insects and the whisper of the wind among the leaves.

So intently did Willie study the space before him that he was not conscious of the approach of his captain until a hand was laid on his shoulder.

"Move forward," was the word whispered in his ear.

Again Willie began his cautious march. But his eyes were now so used to the gloom that in the lighter space before him he had no need to feel his way. He could see the ground. But he ran his fingers ahead of him to make sure he crept on no betraying twigs.

And now, as he began his slow ascent of the mound about the pine, his heart almost stopped beating. If the dynamiters were found anywhere above ground, it would be here where their wireless reached out into space. He had only a few rods to go to reach the tree, but it took Willie many minutes to cover those few rods. From one stump to another, from rock to rock, seeking always for cover, he advanced toward the towering pine. He crossed the space at the base of the hill, crept a foot at a time up its slope, and had just reached the shoulder of the mound where he could scan its top when he distinctly saw something move. He flattened himself like a stone and lay motionless, his heart pounding, his breath coming fast, his eyes glued on the moving object ahead of him. Now the object

moved again. Now it stopped and became as inert as one of the surrounding rocks. Willie was wondering what he should do, how he should make known to his captain what he had seen, when another object moved farther along the opposite shoulder of the mound. Willie gave an intense sigh of relief. He had been watching one of his comrades come up the other shoulder of the hill.

Now he crept forward with confidence. The figures he had seen also advanced. Then others became visible. Swiftly they crept toward a common centre, and in a few moments more the wireless patrol was assembled at the foot of the great pine. They had seen no man or any slightest sign of man. Apparently the willow copse was as deserted as a desert.

"Find the wireless," whispered Captain Hardy ; and to Carl and Lew and Charley and Roy he said, "Go back to the edge of the mound and watch. Stand there until I call you."

Four dark figures glided down the shoulders of the mound, advanced a little distance into the gloom of the thicket, and sank down on the ground, indistinguishable among the rocks and stumps. Meantime the other members of the patrol were eagerly searching for the secret wireless station.

Henry on one side and Willie on the other knelt and felt of the dead pine. Its rough and reticulated bark was dry as tinder. For the most part it had fallen away, leaving the smooth and gleaming trunk to weather and rot. Ghostly and spectral the dead tree towered into the air. Up and down, back and forth, over every inch of its surface, their busy fingers flew; but they came into contact with no wires. The two stood erect and felt aloft, but no success greeted their search. Again and again they went over the tree. They could find absolutely nothing to indicate a wireless plant.

With deepening anxiety Dr. Hardy looked on. "It *must* be the place," he kept repeating in his mind. "Both boys would not make a mistake. It *must* be the place."

But no wireless was to be found.

CHAPTER XX

THE STRUGGLE WITH THE DYNAMITERS

WHILE his two wireless men continued their search, Captain Hardy sank down on a stone to think. Presently he jumped up.

"Use your lights," he said. "We've got to take every chance."

Instantly two flash-lights were playing over the surface of the dead pine. From side to side, up and down, now lighting the roots, now flashing toward the lofty top, the two torches sent their searching beams of light. No crack, no crevice, no irregularity in the surface of the tree went unillumined. But no concealed wires were revealed, and nothing was discovered that even faintly suggested a wireless station. As the search proceeded, Dr. Hardy grew desperate in mind. He shuddered at the thought of the awful fate that would overtake the people of Elk City if he and his little band should fail; and apparently they had failed. As the search went on, Dr. Hardy's face be-

came white and fearful, so intense was his mental agony.

And then, just as the search was about to be abandoned, he himself discovered, far up the trunk of the tree, a round opening where a limb had rotted away. He pointed it out.

Instantly Henry clasped the bole of the tree and began to hoist himself upward. It was a hard climb, but foot by foot he mounted until he reached the first limb. Then cautiously but swiftly he climbed from branch to branch until he stood within reach of the opening in the tree. Balancing himself carefully on a limb, Henry reached forward and thrust his arm into the cavity. He ran his hand around the interior but found nothing. He reached downward within the cavity as far as he could and made another circuit with his hand. At the same instant a low cry burst from his lips.

"I've got it," he said. "There's a spreader and four wires inside the tree. The trunk must be hollow all the way to the ground."

Rapidly he slid down the tree. Then he and Willie fell to searching for the wire that ran from the end of the hidden aerial. With their knives and fingers they dug rapidly around the tree, tossing the leaf-mould

and small stones aside in showers, forgetful, in their eagerness, of the need for caution. But they completely encircled the tree without finding any wire.

"It's there," said Henry. "There is no doubt of it. We must go deeper." Again they dug. This time they ploughed deep. And now they found a solid ring of stones around the base of the tree, well hidden by the leaf-mould.

"They have been put there by human hands," said Henry, "and so skilfully covered with forest loam that we never knew the difference. The job must have been done a long time ago."

One by one they dug around the stones and lifted them away. Now they exposed hollow surface roots of the pine that had been covered over. The hole in the tree evidently extended from the ground to the open hole Henry had explored. They ran their fingers through the earth about the old roots. They had almost encircled the tree a second time when Willie gave a low cry of triumph.

"Here it is," he said.

The hidden wire was fully a foot beneath the surface of the soil. The two boys knelt by the wire and began to dig away the earth from above it. At once

they encountered a flat stone. They dug it out. Another flat rock came into view. Evidently the wire was entirely covered with hidden stones.

"They certainly made a good job of it," muttered Henry. "No one would have found that wire in a thousand years."

Foot by foot they proceeded. Rock after rock they dug up and laid aside.

"Let us see where this wire runs," said Captain Hardy. "It is going somewhere straight as a string."

He stood up and flashed his light along the line of the wire. A low exclamation broke from him. The ray from his torch fell directly on the great flat stone on the nearest side of the rock heap, that he had tried in vain to move. Even while his torch was playing on the rock there came a dull thud as though a great stone had been dropped a few inches on another rock. Then there was a mechanical noise in the direction of the rock.

"Light out!" snapped Captain Hardy. "Get out of sight quick. Keep quiet."

The figures on the mound slipped rapidly down behind its sheltering shoulder and lay flat, listening with straining ears, peering intently through the dark, their

hearts pounding like drums. The mechanical noise became plainer. Then it became very distinct. It sounded like a ratchet at work. Then footsteps became audible. A faint glow showed in the tree tops, where a ray of light shot upward.

Then a heavy guttural voice said, "*Himmel sei Dank!* We'll soon be done with this hole. After tomorrow noon we shall never see the blasted place again. Give me that light."

Suddenly the rock heap was lighted with a strong radiance that illumined the interior of the copse and was thrown back by the dense screen of leaves above and on every side. The indirect illumination was sufficient for each member of the wireless patrol to see his neighbors. Willie saw that he lay between Henry and his captain.

The latter looked toward him, motioned with his finger, and began to move swiftly and silently around the great mound. Willie and Henry followed. As they moved forward, they could hear footsteps among the rocks. Then some one was heard leisurely climbing up the other side of the mound.

Suddenly a guttural cry rang out. "*Mein Gott!* They haf found our wireless!"

There was a rush of feet on the opposite slope of the

mound. Dr. Hardy motioned imperatively and rushed round the mound. Now there was no time for caution. As he ran he uttered the cry of the night-hawk, once, twice, thrice. It was the signal for the corps to come to their commander. From the encircling gloom the four scouts, who had been watching with breathless interest, instantly rushed toward their captain. Their movements could have been heard a hundred yards away, but the excited voices on the mound drowned out the sound of their footsteps. In a moment more the patrol was assembled about their captain.

"Your pistols, quick," snapped Captain Hardy. "Get your lights ready. Surround them."

To right and left the scouts stole quickly round the mound. On its crest two men were still talking excitedly. Suddenly a branch snapped loudly under some one's tread.

"Hark!" said one of the men.

They stopped talking and flashed their light rapidly around. Instinctively each scout dropped to his knees. The first rays of the light passed over their heads. But a second later the powerful lantern was depressed. Its beam struck squarely on Captain Hardy. He sprang erect.

"Hands up!" he cried, leveling his pistol at them.

"Light up and close in on them, boys. Shoot if they make a move."

Taken utterly by surprise, the men on the mound looked first one way and then another. From every direction a searching beam of light flashed forth, blinding and confusing them.

"Hands up!" ordered Captain Hardy again. "We shall shoot if you do not obey."

There was nothing for the dynamiters to do but comply. Up went their hands. The wireless patrol closed in.

"Guard them," said Captain Hardy to Carl and Henry. "If they move, shoot them."

The two scouts came close to the dynamiters, who were now trembling with fear, and with leveled pistols held them motionless. From his pocket Captain Hardy took the stout cords he had prepared.

"Put your hands behind you," he ordered gruffly.

The prisoners obeyed. Swiftly he tied their crossed wrists. Then he bound their ankles so that the men were helpless.

"Search them," he ordered.

Roy and Lew sprang forward to carry out the command.

"*Mein Gott!*" ejaculated one of the prisoners as the boys stepped into the light. "*Kinder!*"

No weapons were found on the men. Their pocket-knives were taken from them.

"Lay them on the ground," said Captain Hardy. "Don't hurt them."

The prisoners were placed face downward on the soft earth.

"Henry," said Dr. Hardy, "you and Lew will stay here and guard these men. Don't take your eyes from them. If they try to get away, shoot them."

He took two gags from his pocket and forced them into the prisoners' mouths.

"There," he said. "They can't give you any trouble. Now we'll take a look at their tunnel."

He led the way to the rock heap. A glance explained the entire mystery of the willow copse. Under the rock was the small opening to a natural cave. Evidently it had been open until artificially closed with this great flat rock. The latter was now held up by two great jacks. The ratchet-like sound had been made when the jacks were being operated. Beside the jacks lay a heavy stone that had evidently served some purpose in closing the mouth of the tunnel. The dull thud of this stone when it was removed had given the scouts their first warning of the approach of the dynamiters.

The mouth of the cave was narrow. It led down-

ward at a sharp angle until the floor of the cave must have been thirty or forty feet underground. Here the cavern proved to be a series of openings in the limestone rocks so common in Pennsylvania. There were small chambers and large chambers. In places there were great holes that stretched downward for many yards. It was evident now what had become of the earth and rock from the tunneling. It had been dumped into some of the deeper chambers. The vast quantity of it showed that a great length of tunnel must have been made. Stalactites and stalagmites were here and there. And everywhere the place was wet and damp, and in spots water was dripping slowly and steadily from the roof.

Cautiously the patrol made its way along. There were galleries running to right and left and chambers and openings in great number. But the scouts went straight to their goal, guided by the footprints on the muddy floor.

At last they came to a great vaulted chamber. Lights were burning along the sides of the room. Boxes and bundles were piled in heaps along the walls. A rude table and chairs, made of rough boards, stood in the centre of the chamber. Suddenly Willie grasped Dr. Hardy's arm.

"Look!" he cried softly. "There are four chairs around the table."

The captain of the wireless patrol stopped as though shot.

"And there are four cots along the wall," said Roy.

"Your pistols, boys," said Dr. Hardy soberly, "and be very quiet. Get ready to shoot, Carl."

They now proceeded with extreme caution. Dr. Hardy alone flashed a light to guide them. The great chamber that had been turned into a living-room appeared to be at the very end of the cave. Only a narrow tunnel led onward from it. This was quite evidently artificial. The stone had been drilled and broken away. And the little chips that lay on the floor were like the piece of stone that Henry had picked up on his first visit to the region.

Through this narrow tunnel the scouts had to advance in single file, bending low. For some rods the tunnel continued through the rock. Then a gravel formation was reached. Here the tunnel was larger. The roof was upheld by dead wood, evidently gathered in the near-by forest. Suddenly the tunnel appeared to end. The scouts looked forward in astonishment. But they understood a moment later when they approached and found that the tunnel made a right-angled turn.

The turn led into a considerable chamber, which had been dug in the gravel. Boxes were stored along the sides of the wall. And at the far end of the chamber there were lights and two men were bending forward, boring round openings into the gravel-bed before them.

"Holes for their dynamite!" whispered Roy. "We must be almost under the dam!"

As he spoke, his foot struck a round stone and sent it rolling against a large tin can. The rattling noise it made filled the chamber.

"Careful, Fritz," said one of the workers, turning around. "You'll blow us up."

Then he straightened up in alarm. He had noticed that the light playing on him and blinding him was different from the great lantern his absent comrades carried.

"Fritz," he said sharply, "is anything wrong?"

"*Nein*," replied Dr. Hardy promptly, but he could not imitate the gruff voice of the prisoner on the mound.

The man before him gave a great oath. "Die police!" he exclaimed.

His comrade suddenly turned and looked into the blinding light. "They shall die mit uns!" he cried and leaped for the can of dynamite.

"Shoot!" called Dr. Hardy.

Carl's pistol rang out. The dynamiter staggered but kept on. Again the pistol cracked, and the man fell prone.

"Hands up!" cried Captain Hardy to the other dynamiter. "We shall shoot if you do not obey instantly."

The man took one quick glance at his comrade on the ground, threw up his hands, and then dropped to his knees.

"Mercy," he begged. "Have mercy."

Quickly Dr. Hardy bound his hands and feet, then turned toward the injured man. "Bring those lights here," he said.

Carl ran and fetched them. Dr. Hardy rolled the silent figure over, stripped the clothing from the body, and with swift, skilful fingers examined the wounds.

"That bullet went through his shoulder," he said, "broke his collar-bone, but did no serious harm." Again his fingers worked swiftly. "The other," said he, "went through the fleshy part of his chest. The fellow is suffering more from shock than anything else. He'll be all right after a time. Give me some strips of a shirt for bandages."

Both Roy and Willie pulled their shirts off and tore

them into strips. With some water from a bucket that stood near by, Dr. Hardy washed the wounds thoroughly. From his first aid kit he took some antiseptic dressings and applied them to the wounds, fastening them in place with the strips of shirts.

"Let's see if we can get him to his cot," said Dr. Hardy, when he had finished dressing the man's wounds.

Carefully the man was carried to the little tunnel and there half carried, half dragged to the great chamber, where he was put on a cot. And even though the man was weak and hardly conscious, Dr. Hardy tied his feet and hands.

"We'll take no chances with these desperadoes," he said.

They returned to the chamber in the gravel. They were just in time. Though tied hand and foot, the other prisoner had managed to roll across the floor of the chamber. He was within three feet of the case of dynamite and was trying desperately to kick it.

"Go back," cried Dr. Hardy sharply to his comrades, at the same time rushing forward and snatching up the can just as the prisoner rolled within reach of it and drew back his feet for a kick that would have sent them all to eternity.

"You hound!" said Dr. Hardy. "We'll put an end to this danger."

Gingerly he pried off the lid of the can and carefully filled the case with water. A great sigh escaped from him. "That was a narrow squeak," he said. "But that stuff will never harm anybody now."

Then he turned to Lew. "You can probably find your way to the camp of the soldiers better than anybody else here," he said. "Go there as fast as you can. Don't take any chances of being shot. Call to the guard before you come where he can see you and tell him who you are and what you want. You are to bring the commander and some men here just as soon as you can. Now hurry."

Lew turned and hastened back through the cave. Now he noticed a tiny wire, half hidden in the mud of the floor, that ran through the cave. He found his comrades vigilantly guarding the prisoners on the mound, explained briefly what had happened, and plunged into the dark.

Meantime the boys in the cave were examining the belongings of the dynamiters. The place was comfortably furnished, though the furniture was made of boards. There was an abundance of food and a number of books. But the thing that attracted most

attention was the splendid wireless outfit. Every part of it came in for close examination and the wireless patrol were still investigating it when the tramp of heavy feet was heard echoing along the corridor and the commander of the guard swung into the great chamber, followed by a squad of his men.

"We'll turn this job over to you now," said Dr. Hardy, when he had explained matters to the soldiers.

The guardsman looked at Dr. Hardy and his youthful patrol, and the look of astonishment and wonder deepened on his face.

"We'll have to hand it to you," he said. "You put one over on both the national guard and the state police. But believe me, I am not a bit resentful. If it hadn't been for your band of wireless experts, we should have gone to oblivion at noon to-day with a large part of Elk City."

Then the two parties shook hands in farewell. "Fall in," said Captain Hardy, and the little patrol filed out of the cave, picked up their comrades at the entrance, and marched away just as day was breaking. A detachment was sent to camp to prepare food, while others went to the hilltops to bring back the wireless outfits.

Henry reached his station at a minute before five.

He knew that the operator at Camp Brady would be listening in on the hour. Quickly he tested his key, strapped on his receivers, and sent a signal flashing through the dawn. A moment later the boys at Camp Brady came running from their tents at the call of the man on duty.

"They got 'em!" he cried. "They got 'em! Hurrah for the wireless patrol!"

CHAPTER XXI

A MESSAGE IN THE NIGHT

WITHIN an hour the entire patrol were assembled at the camp under the pines. No longer was silence necessary. Eight boys who had suppressed their bubbling spirits for two days, who for forty-eight hours had hardly spoken above a whisper, now gave vent to all the pent-up excitement that had been seething in their hearts. A rousing fire and a hot meal—the first they had allowed themselves—filled their cup of happiness to overflowing, and songs and jests and happy laughter rang through the gloomy pines.

Then blankets were unrolled, and a long row of boys, desperately weary after their stirring vigil in the dark, stretched themselves out in the tent, and in no time were fast asleep. The sun climbed higher and higher. Its light filtered ever more strongly through the dense pines. But the wireless patrol slept on, unguarded and unafraid, no longer dreading either danger or discovery.

Noon came and Dr. Hardy roused the sleeping lads.

Dinner was eaten, the fire carefully extinguished, packs were made up, and the patrol made their way back along the route by which they had come, to the little village where the motor-cars still waited. The two cars sufficed to carry the entire patrol. They chose a longer but better road than the obscure highway on which Roy had met with his misfortune, and just before the supper horn blew at Camp Brady, the two cars rolled into the Robinson yard and a signal apprised the boys on the hillside that their comrades had returned.

Forever in the memory of the wireless patrol will live the camp-fire that followed the return of the scouts from the Elk City reservoir. High leaped the flames. In great stacks the logs were piled within the fire ring. All the plateau was aglow and the tents stood out white and brown in the dancing light. From afar people saw the great beacon and wondered at it.

But round the fire ring sat a dozen boys, happy at their reunion, jubilant at their success, grateful that they had found the chance to serve their country no less truly than the men in the trenches. Again and again the story of the man hunt was retold. The dark and gloomy camp under the pines was described in de-

tail. While four eager boys bent over a map, Henry showed them where that camp had been, where the dam was located, where the soldiers camped, and where the dynamiters' cave was found. The knobs were shown whence the wireless detectors had pointed out the secret station. And every boy at the fireside listened intently while Henry graphically described the silent searches in the night, and the last dark trail that led to the ghostly pine. And when the capture of the dynamiters and the visit to the hidden cave was described, twelve boys sat tense, hardly breathing as Henry pictured the dramatic ending of the long search.

"Tell us about the rattler," demanded Lem, who could never forget how his own carelessness the year before had almost resulted in the death of Lew from snake bite. Willie was no story-teller; but not even Henry, who was a born orator, could have painted the dense thicket, the startling rattle in the dark, and the awful fear that followed, as graphically as Willie did. But Willie was unconscious of the fact that he was doing anything remarkable. He was merely sketching in simple words the picture that was in his mind. Thus clearly had he learned to see and remember what he saw.

And when Willie had finished his story, and the

spellbound listeners had recovered their powers of speech, there was a cry for Carl to tell how he shot the dynamiter. Carl was no story-teller under any circumstances.

"Dr. Hardy said to shoot him and I did," was Carl's version of the affair.

A roar of laughter went up.

"Weren't you afraid when you saw him running for the can of dynamite?" said Robert.

"You bet," said Carl. "I was so scared I could hardly pull the trigger."

"But you hit him all right."

"There's nothing remarkable about that," said Carl. "I had to, and I knew it. I knew that if I didn't get him, he would blow us all up. You could hit anything under such circumstances."

It was the same sort of bravery Willie had shown, and Dr. Hardy smiled approval. Nothing about his patrol pleased him more than their honesty as to their own fears; and he knew that not a boy in the company, no matter how badly frightened he was, would fail at the critical moment. But what Dr. Hardy did not know was that his own example of quiet, patient, determined courage was responsible for this trait he liked so much. Nor did he know how, behind his

back, the story had gone from lip to lip, telling how he ordered his comrades out of the gravel chamber the while he rushed forward to face death himself in the race for the can of dynamite.

When the great logs were reduced to ashes, and the leaping fire to a glowing mass of coals, potatoes were fetched and some fish taken from the box where they were kept alive in the water from the spring, and while the potatoes were roasting in the hot ashes, the fish were broiled above the coals. And presently a dozen happy lads sat cross-legged, juggling the hot food in their hands, and laughing, singing, and cheering while they waited for it to cool enough to be eaten. Then followed what was destined to be one of the last camp-fire feasts that summer at Camp Brady.

While the potatoes were still cooling, the man on duty at the wireless called out, "Somebody tried to blow up another dam and was caught just as we caught the dynamiters at the Elk City reservoir."

Instantly there was a rush for the wireless tent.

"Where was it?" the boys demanded.

"Don't know," said the man at the key, as his pencil fashioned letter after letter on the pad before him. "Didn't hear the beginning. Despatch being sent out by Associated Press. Great story."

Henry bent over the operator's shoulder and read the despatch, word by word, as it was recorded.

". . . saved—from—destruction—by—wireless.—Government—operators—picked—up—message—indicating—plot—to—destroy—dam—and—wipe—out—this—munitions—manufacturing—centre.—Knowing—of—other—similar—attempts—recently—they—immediately—located—the—plotters—by—secret—government—wireless—device—and—captured—them—at—work."

Evidently the operator had caught the end of the introductory paragraph. The story went on and on. Word by word Henry read it to his comrades as they stood breathless around him. It was so like the adventure they had just been through with themselves that they could feel all the thrill and excitement that ran through the dramatic despatch. It told how, after the plotters had been located by wireless, the operators, who were a detachment of the army wireless service, had found the dynamiters and taken them prisoners.

"The country is full of traitors," said Lew. "That's three or four dams we know about that they have tried to blow up lately. I wonder where this dam was."

"Don't know," said the operator, still writing.

Suddenly Henry cried out, "Listen! Listen!" and began to read again. "The wireless squad that accomplished this deed, it seems, is a special company doing wireless duty at one of the local guard headquarters. They have also been helping a near-by farmer and drilling during the summer. The squad is commanded by an army physician whose ambulance section has been kept from active service by lack of equipment. So that in reality it was a company of mere boys that saved Elk City from destruction."

For one instant every member of the patrol was dumb. Then Roy cried out, "That's us! That's us! Well, we don't care who knows it now that Elk City is safe. It doesn't make any difference to us what they say."

But within a few hours the wireless patrol was to realize that it made a tremendous difference.

CHAPTER XXII

A NIGHT OF TRIUMPH

THAT difference first became evident early the next morning when the telephone rang violently and an angry voice demanded to speak with Captain Hardy.

"What's this cock-and-bull story you've been giving to the newspapers?" asked Colonel Ware the instant Captain Hardy reached the telephone.

"There must be some mistake," said Captain Hardy. "I have seen no newspaper men and given out no story of any sort."

"Then where does this ridiculous article in the morning newspaper come from?"

"I have not seen the morning paper, Colonel Ware. What is the story?"

"A romantic yarn about your wireless patrol capturing some dynamiters at the Elk City reservoir. It was bad enough for you to send the national guard and the state police on a wild goose chase, without putting this outrageous yarn into circulation."

"I beg your pardon, Colonel Ware. I did not send the state police or the national guard on a wild goose chase. The dynamiters were there. The soldiers and the police simply failed to find them."

"Have you the effrontery to tell me again that there are dynamiters there, when my soldiers have searched through every foot of the region?"

"No, Colonel Ware. The dynamiters are there no longer, but they were there until the wireless patrol captured them."

"What!" cried the Colonel.

"Yes, Colonel Ware. The Camp Brady boys located and captured them. But I know nothing about the story in the newspaper. The wireless patrol had nothing to do with making the matter public. That must have been done by your own soldiers."

"Then you have been absent from your post without leave!"

"I have."

"For what reason?"

"I would rather not say, Colonel Ware."

"You add insubordination to violation of the rules, eh?" cried Colonel Ware sharply. "I shall report your conduct at once. We'll see what a court martial will say about your attitude."

"Colonel Ware," said Captain Hardy, his cheeks beginning to grow red with suppressed anger, "there are some things more important than discipline. One of them is service to one's country. If you wish to bring this matter to trial, I cannot prevent you. But please remember that the entire truth will come out. And perhaps that story may not be any more to your liking than this one is."

"What do you mean?" cried the angry commander. "Are you threatening me?"

"I am not, sir. But if I guess correctly, there is nothing at all in the story you have read about the failure of the national guard and the state police to find the men that my little band of boys both located and captured."

There was a long pause in the conversation. Finally Colonel Ware said, "I have been rereading the article. I see that you really did perform a meritorious service. Under the circumstances, I think a little leeway should be allowed. I shall overlook your conduct. But remember, sir, if there are any further breaches of discipline I shall have to bring the matter to the attention of the higher authorities."

"Very well, sir," said Captain Hardy, respectfully. "The wireless patrol will try to be very particular to

obey your orders." But if one could have read the expression in Captain Hardy's eyes, one would have found there amusement and contempt and some anger.

Late that very morning several motor-cars were observed to drive down the highway and stop at Mr. Robinson's house. This unusual incident occasioned some curiosity among the wireless patrol, but not half so much as did the sight of a considerable company of men making their way soon afterward from the farmhouse up the slope toward Camp Brady.

As the party came through the opening in the rock wall and mounted to the level parade-ground in front of the tents, Captain Hardy went forward to welcome them.

"Are you Captain Hardy?" inquired the spokesman of the group.

"I am, sir," was the courteous reply. "Can I be of service to you?"

"You have already been of service to me—and to all these gentlemen, and thousands more," said the man, with deep feeling. "We have been to the reservoir and have seen everything and we have come to thank you. I am the mayor of Elk City, and these are representative citizens."

"You should thank the boys of the wireless patrol,"

said Dr. Hardy, his eyes lighting up with pride. "It is they who saved Elk City."

"Yes, we know," said the Mayor, "and we want to thank them, too, but we also know that without your leadership they could have done little."

Dr. Hardy, usually so calm and collected, was almost flustered. "I will call the boys," he said, "and you can meet them."

At his signal the boys came thronging forward. Introductions were made, hands were shaken, and the boys of the wireless patrol became aware that in the eyes of Elk City they were the greatest of heroes. As the words of gratitude and praise poured forth from their visitors, they became even more embarrassed than Captain Hardy had been.

But finally the formal thanks were ended, and the visitors asked for the story of the discovery and capture of the dynamiters.

"Won't you come into the dining tent, gentlemen?" said Captain Hardy. "There are benches there. I am sorry we have no better seats to offer you."

They went within the great tent and sat on the long benches at one side of the table. Then Captain Hardy, standing on the other side of the table, told them in detail the entire story, beginning with the picking up

of the cryptic message and the accidental discovery of its real meaning. He reviewed the efforts made to locate the plotters by the detectors, the discovery by triangulation of the vicinity of the dynamiters, the secret march to the pine woods, with the story of how Roy improvised a wireless outfit, and finally told of the searches in the dark, the long vigils on the hilltops, the discovery of the secret aerial in the dead pine, and the capture of the dynamiters. But he made no mention of the failure of the soldiers and of the state police. It was a long story, graphically and dramatically told, and the listeners sat spellbound. When the tale was ended they could not find words to express their wonder. They demanded to know which boys made the detectors, who located the dynamiters with them, which boy converted a motor-car into a wireless outfit, and who saved the day with his unerring shots.

Now it was Henry's turn to be embarrassed, and then Willie's, and Roy's, and so on through the entire company, for Dr. Hardy found some point to speak of in the service of each boy, that called forth words of praise or wonder from the visitors. All in all it was the most embarrassing and the happiest experience the members of the wireless patrol had ever had.

Suddenly Dr. Hardy looked at his watch, and ex-

claimed, "My! How the time has flown. It's already past noon. Gentlemen, our fare is simple and our benches hard, as you already know, but we shall be very happy to have you take dinner with us and see what the wireless patrol can do with their frying-pans as well as with their radio instruments."

"You are doing the very thing we came to do," said the Mayor, with a smile. "For it was part of our mission to invite you all to a banquet that we have arranged in your honor for to-morrow night. Will you come?"

"We will come eat with you, if you will stay and eat with us," smiled Captain Hardy.

"That's a bargain," cried the visitors. "We are agreed."

At once there was great activity in the camp. While Captain Hardy and his two lieutenants entertained the visitors, the other boys hastily prepared a meal, and soon the dining tent was crowded with a jolly group—for by this time all felt well acquainted.

The next night the wireless patrol were entertained in Elk City; and Colonel Ware gave his permission for the entire patrol to go. Once more there were embarrassing speeches, and ringing words of praise for the boys from Camp Brady, and the presentation to the

wireless patrol of a beautiful silver cup, on which was inscribed this legend:

Presented
to
The Camp Brady Wireless Patrol
by
The Grateful Citizens of Elk City
in commemoration of
Their Devoted Service in Saving the City From Destruction.

When Captain Hardy rose to accept the cup, cheer after cheer went up from the men of Elk City and the Camp Brady boys alike. To both he was the ideal leader. When the cheering ceased and the banquet hall was quiet, he tried to speak, but could hardly do so. This tribute had brought the moisture to his eyes and a lump in his throat. But getting a grip on himself, he told the diners the story that he had told the committee the day previously. His audience sat motionless during the long recital.

"And now," said Captain Hardy in conclusion, "I have told you what occurred and shown you some of the high points in the affair. I have told you what you owe to Henry Harper and to Willie Brown and to Roy Mercer and to Carl Dexter. But I should leave you with a false impression if I told you no more.

"You are equally indebted to nine other boys. We barely succeeded in our enterprise as it was. Had a single one of these boys failed in the task assigned to him, we should never have saved Elk City from destruction. Doubtless the hardest task done by any members of the wireless patrol was that of remaining at Camp Brady and carrying on the ordinary affairs of every-day life there. Yet, for reasons I cannot tell you, it was absolutely essential to our purpose that our expedition remain secret. Had these boys not done their part in exact accordance with orders, our absence from camp would have been discovered, and we should doubtless have been thwarted in our efforts. Milton tells us that 'They also serve who only stand and wait.' And I want the good folks of Elk City to know how much they owe to these boys who so bravely stood and waited at Camp Brady, putting their own desires behind them and obeying orders unquestioningly. They saved Elk City as truly as did the boys who trapped the dynamiters.

"You have heard that a chain is no stronger than its weakest link. In our chain there were many links. Had the men who kept the camp not been faithful, it would have hurt our chances of success. Had our scouts not been able and alert, we should have be-

trayed ourselves to the dynamiters. Had our wireless operators not done their part perfectly, we should never have known where to look for the plotters. Had our best marksman failed at a critical moment, we should not now be seated at this generous table. The point I wish to make is that no link in our chain proved weak because every boy did with his might what his hands found to do. And here, publicly, I want to express my appreciation of the fidelity and absolute loyalty in action of every member of the wireless patrol."

He paused while the diners applauded, and then continued, "In behalf of the members of the wireless patrol, I thank you, gentlemen, for this beautiful cup. We shall ever cherish it and always it will be to us an inspiration for service to others."

CHAPTER XXIII

THE WIRELESS PATROL BREAKS CAMP

BUSY indeed were the days that followed at Camp Brady. But the return to the routine of camp life after the exciting events of the past few days did not prove by any means to be a dull experience. The work of preparation had taken on a new meaning for the boys of the wireless patrol. The drills and hikes and practise afield had a new significance. The work with rifle and revolver now stood for something more than mere ability to hit a mark. For now each boy knew that his own life or the lives of his comrades, or perhaps the safety of a multitude of people, might some day depend upon his ability in any one of a dozen lines. Each was determined that there should be no weak link in his personal preparation, and the boys at Camp Brady improved daily in manifold abilities.

Nor were the drills the only duties that filled the days. Farmer Robinson now had his teams at work turning up the earth for his plantings of wheat and

rye. Teddy was called back to the plough. Soon the other lads were taking their turns at harrow and drag, smoothing and fining the soil until the broad fields were like a vast garden.

Night after night the search for the dynamiters was lived over at the camp-fire. And those who had served by waiting at Camp Brady now heard the story of the man hunt from as many different points of view as there were boys to tell it. Again and again was repeated the tale of the rattler in the dark, of the secret searches in the black night, of the breathless moments when the wireless was pointing out the plotters, of the surprise at the ghostly pine, and the crisis in the dynamite chamber.

One boy and another came in for warm words of praise from his fellows. Henry was given due credit for his steadiness and constancy, Lew for his scouting ability, and Carl for his faultless shooting. But there was nothing new or surprising in that. These boys had always excelled. What was new was the unstinted praise of Willie Brown. No more was he regarded with kindly toleration. He had won his place, and it was a high place, in the esteem of his fellows. Sometimes, as the talk turned on his work, Willie could not keep the moisture from his eyes. But his

tears were tears of happiness and joy. No one would ever know how he had worked and worked and worked to do something well; and now it seemed as though he had done many things well. Within him there welled up an ever-growing affection for the man, his captain, who had made it all possible by making him believe that he could if he would; that the way to accomplishment was by faith and hard work. And most of all Willie rejoiced because he had been able to do a little, yes, a great deal, for his country.

So the days at Camp Brady were filled with labor and the nights with happy talk; for there was much besides their own work to interest the wireless patrol. Nightly the air was vibrant with stories of sunken ships and heroic rescues; of battles on land and sea and in the air; of great deeds done for freedom—for that liberty which the wireless patrol itself was preparing to fight for. But in the light of their own recent perils, the news in the air held a new meaning, and their work of preparation shone in a new light.

And now, when life at Camp Brady was sweeter, more significant, more attractive than ever it had been, there came like a lightning stroke an order for Captain Hardy to report at once for duty at the front.

"I am sorry for your sakes, boys," said Captain

Hardy, "that our camp must end. But I have been called to do my bit and I must go. We shall have to break camp at once."

"Why can't we stay here after you are gone," said Roy, "and continue to operate the wireless station for the soldiers?"

"If there were some other man at the head of the guard here," was the reply, "I should be tempted to let you do so. But it requires some one a little more experienced in dealing with people than you boys are to get along with the authorities here. I am afraid that Colonel Ware has not yet forgiven us for outshining his troops. But you must say nothing of this to any one. You have made a great name for the wireless patrol. I don't want to see that reputation spoiled now by any difficulty. So it is best that we all leave Camp Brady."

Sober, indeed, were the faces before Captain Hardy; but there was no word of protest uttered. The boys of the wireless patrol were too well disciplined to dispute with their commander. But Dr. Hardy read plainly the thoughts that were in their minds.

"I'm sorry, boys," he went on, "but you will have to trust my judgment. What I order is, as you know, for the best good of the wireless patrol. But though

we shall break camp here, you are not through with your training. You know by this time exactly what you are trying to do with yourselves. You do not need me any longer to teach you. I want you to continue your work at Central City. Will you?"

The response was a shout of agreement.

"I want you to stay together," continued the leader, "and go on with your practise hikes, your field-work, your rifle and pistol practise, and particularly your wireless work. I will try to have your special club permit continued. You came to camp thinking that you were particularly well equipped to serve Uncle Sam. More than ever I believe that is so. Time will remedy your one defect—youth. When I get into service, I shall look around for a place that the wireless patrol can fill. When I find it, I shall try to have you put in that place. So I hope none of you will enlist or go off and break up the organization. Together you can perform many times greater service than you can do separately as individuals. So go on with your training. If you do, I feel sure that in a year or two the wireless patrol will be heard of in more prominent places than Elk City. Will you do as I wish?"

"Indeed we will," was the unanimous response. "We will do *anything* you wish."

"Good!" said Captain Hardy. "Now we will strike the tents and pack our luggage. Have everything ready when I return."

In a few hours more the clearing on the hillside was vacant. No tents shone white in the sun. No wires sparkled aloft. No longer did the sound of a bugle ring through the air. But though Camp Brady was deserted, the spirit of the camp went back to Central City, where the wireless patrol dedicated themselves afresh to preparation for the deeds that lay before them.

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